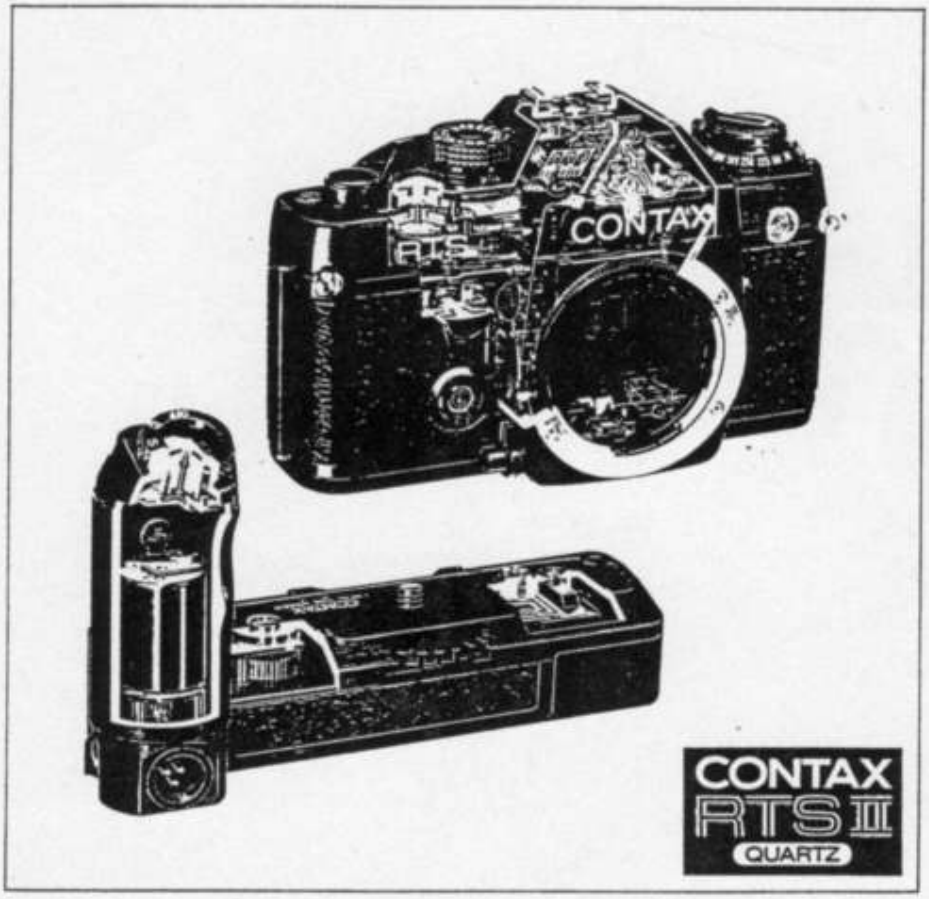
CONTAX RTS III

WINDER W-3, DATA BACK D-4

REPAIR MANUAL



YASHICA CO., LTD., TOKYO

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CONTENTS:

1. DISASSEMBLING OF THE EXTERIOR PARTS
2. DISASSEMBLING OF THE MOUNT BASE ASS'Y FROM THE CAMERA BODY (W/F.P.C and Mirror Box Ass'y)
3. ASSEMBLING OF THE MOUNT BASE ASS'Y TO THE CAMERA BODY
4. DISASSEMBLING OF THE SHUTTER MECH. ASS'Y FROM THE CAMERA BODY
5. REPLACEMENT PROCEDURE OF 1ST & 2ND SHUTTER CURTAIN ASS'Y
6. EXPLANATION OF THE MECHANICAL SHUTTER MECHANISM
7. DISASSEMBLING AND REASSEMBLING OF THE WINDING MECHANISM
8. REMOVAL OF THE SPROCKET FROM THE CAMERA BODY
9. MULTI-EXPOSURE MECHANISM
10. DISASSEMBLING OF THE MIRROR BOX ASS'Y FROM THE MOUNT BASE ASS'Y
11. DISASSEMBLING AND ASSEMBLING OF THE INFORMATION CODE BASE PLATE ASS'Y FROM THE MOUNT BASE ASS'Y
12. REPLACEMENT PROCEDURE OF FLEXIBLE PRINTED CIRCUIT (F.P.C)
13. VIEWFINDER CLEANING
14. SHUTTER SPEED & EXPOSURE ADJUSTMENT
15. OTHERS
16. TROUBLE SHOOTING FOR THE DATA BACK (D-4) AND WINDER (W-3)

1. DISASSEMBLING OF THE EXTERIOR PARTS.

(1) Top Cover;

Remove the respective parts ① ~ ⑳ shown in (fig. 1) in numerical order.

[Note for disassembling]

a) Winding Lever Dress screw (141273) and Winding Lever S.S.(141272) are counter-clockwise screws.

[Precautionary steps for reassembling]

a) Set Eyepiece Shutter Driving Lever to fully opened position. (fig. 2)

b) Set Main Switch Lever (141170) to "OFF" position.

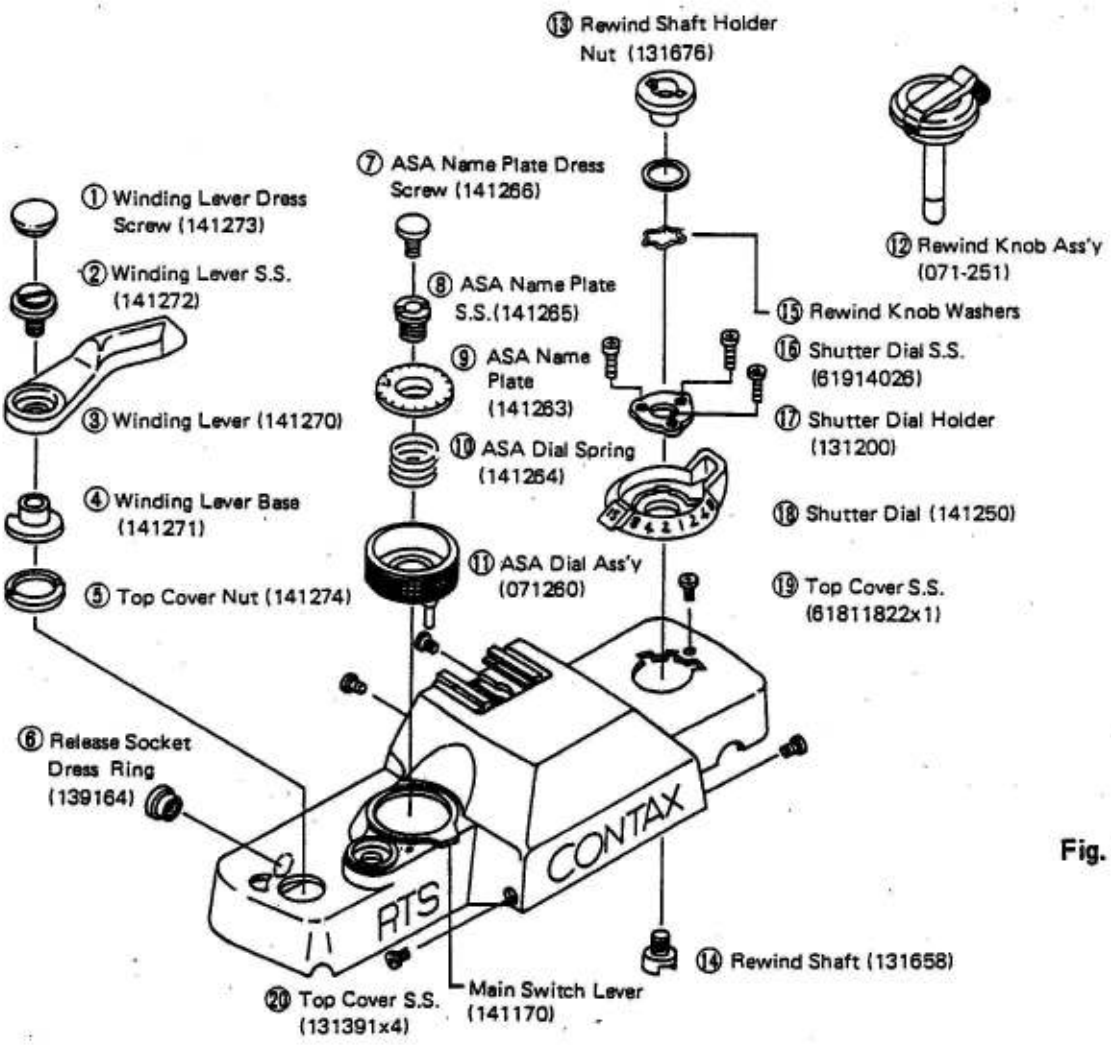

⑬ Rewind Shaft Holder Nut (131676)
⑦ ASA Name Plate Dress Screw (141266)
① Winding Lever Dress Screw (141273)
② Winding Lever S.S. (141272)
⑧ ASA Name Plate S.S.(141265)
⑫ Rewind Knob Ass'y (071-251)
⑮ Rewind Knob Washers
⑨ ASA Name Plate (141263)
⑯ Shutter Dial S.S. (61914026)
③ Winding Lever (141270)
⑰ Shutter Dial Holder (131200)
⑩ ASA Dial Spring (141264)
④ Winding Lever Base (141271)
⑱ Shutter Dial (141250)
⑪ ASA Dial Ass'y (071260)
⑤ Top Cover Nut (141274)
⑲ Top Cover S.S. (61811822x1)
⑥ Release Socket Dress Ring (139164)
CONTAX
RTS
⑭ Rewind Shaft (131658)
⑳ Top Cover S.S. (131391x4)
Main Switch Lever (141170)

Fig. 1

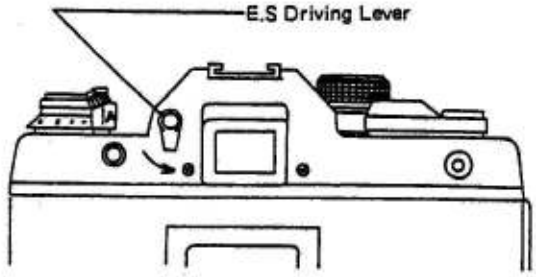


Fig. 2

(2) Bottom Cover;

Remove the respective parts ① ~ ⑥ shown in (fig. 3) in numerical order.

[Note for reassembling]

a) Bottom Cover S.S.(141194) screwed on the tripod socket is shorter than the others and if wrong screw is used, the shutter mechanism may not work properly.

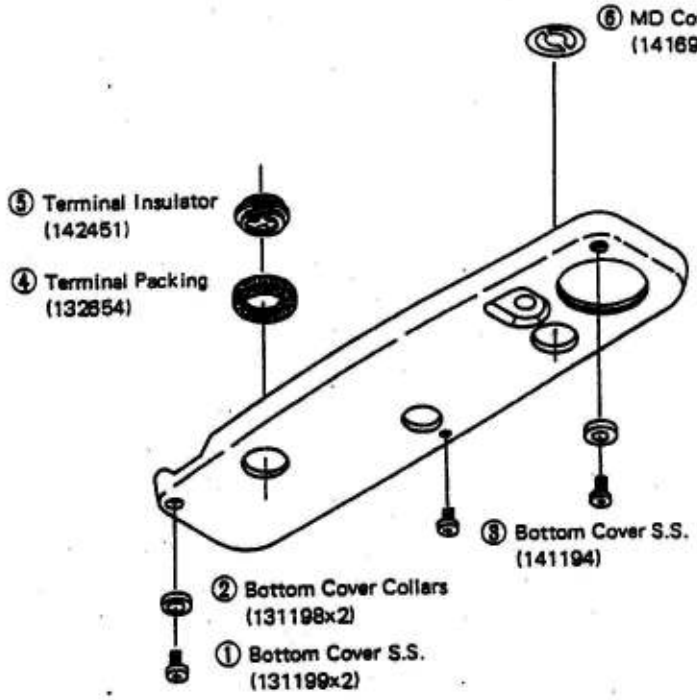


Fig. 3

(3) Leathers;

a) Remove Leathers (141105 & 141104) and Leather Supporting Sheets. (141119).

[Note]

a) Used leather and leather supporting sheet are not re-usable.

b) Do not apply any solution which melts the plastic parts (e.g. Thinner, Ketone, etc.) around AE Lock Button.

[Directions for attaching new leathers on to the camera body.]

a) Clean the camera body surface where the leather is to be covered.

b) Attach Leather Supporting Sheets on to the camera body.

c) Mix 6 parts of *Ever Grip to 4 parts of Ketone and apply the mixture on to the camera body surface where the leather is to be covered and dry it for 5 minutes.

d) Apply the mixture of *Ever Grip and Ketone (2:8) on the reverse side of the leathers and attach them on to the camera body surface firmly.

[Information]

*Ever Grip adhesive 705H is available from Yashica.

2. DISASSEMBLING OF THE MOUNT BASE ASS'Y from the camera body. (W/FPC, Mirror Box Ass'y)

a) Unsolder 2 brown lead wires on top (fig. 4) 5 lead wires (red, orange, pink, blue, gray), connecting legs from Data LED and main FPC S.S.(63912022x3) at the bottom. (fig. 5)

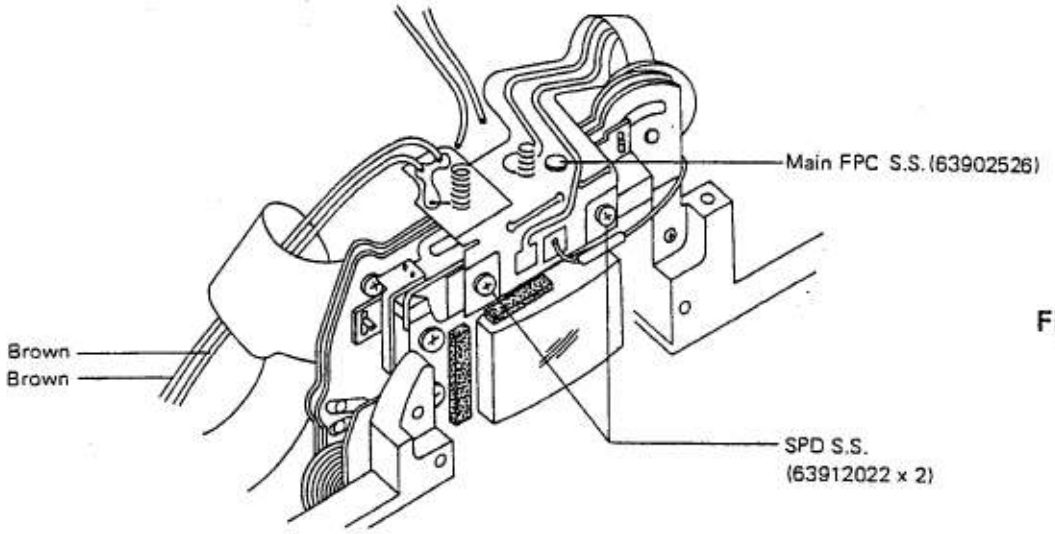


Fig. 4

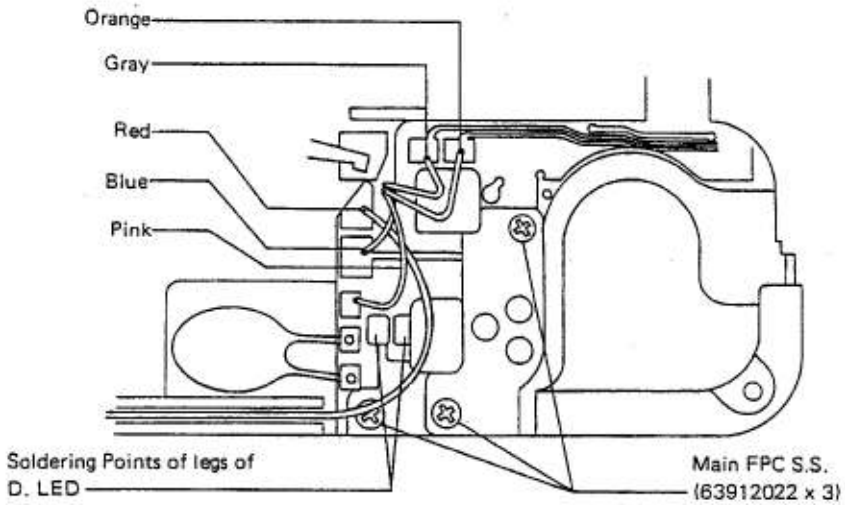


Fig. 5

b) Remove the Body Cover S.S.(63913526x2, 63912527x2) and Body Cover (141140). (fig. 6)

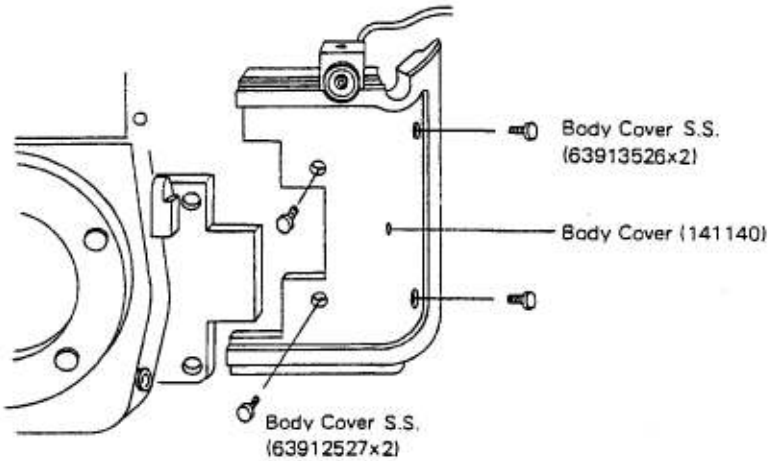


Fig. 6

c) Remove the respective parts ① ~ ⑯ shown in (fig. 12) on page 7 on numerical order.

[Note for disassembling]

a) Pay attention to the Release Plate Spring (141243) which circles around one of the Release Plate Holder Shaft (141239).

b) Remove S.Contact Base Plate Ass'y (071230) to avoid damage to the multi brush contact during the repair.

[Note for reassembling S. Contact Base Plate Ass'y (071230) and S. Click Plate Ass'y (141233)]

Insert and position the multi brush contact of S. Contact Plate Ass'y opposite to the Strap Holder S.S. (Right) as shown in (fig. 7) and the S. Click Plate Ass'y as shown in (fig. 8) for "Auto" mode setting.

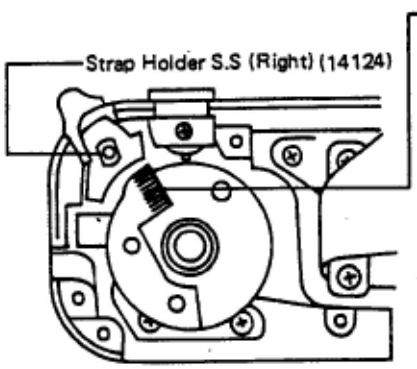


Fig. 7

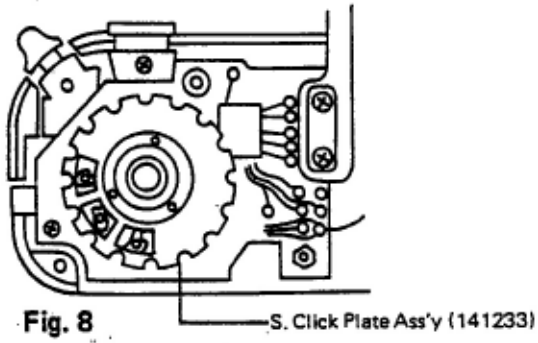


Fig. 8

[Information]

The metal shield located inside of the Eyepiece Frame protects SPD-1 from outside electronic interference.

d) Remove the respective parts ① ~ ④ shown in (fig. 9) in numerical order.

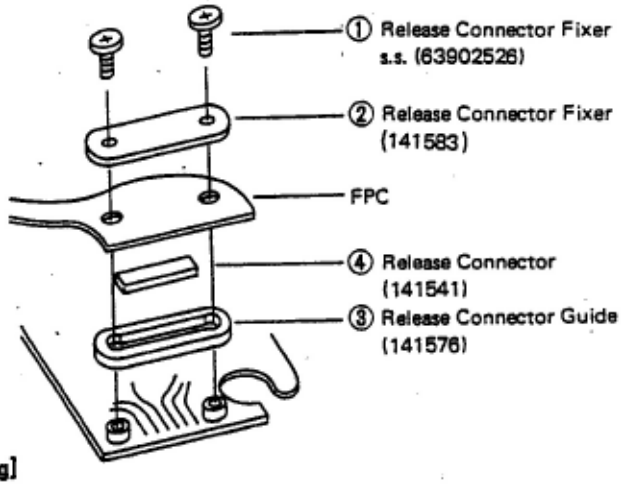

① Release Connector Fixer s.s. (63902526)
② Release Connector Fixer (141583)
FPC
④ Release Connector (141541)
③ Release Connector Guide (141576)

Fig. 9

[Note for reassembling]

a) Clean the contact surfaces of Release Connector and FPC with alcohol.

b) Align the upper and lower printed circuit patterns correctly, shown in (fig. 10), and fix firmly with screws.

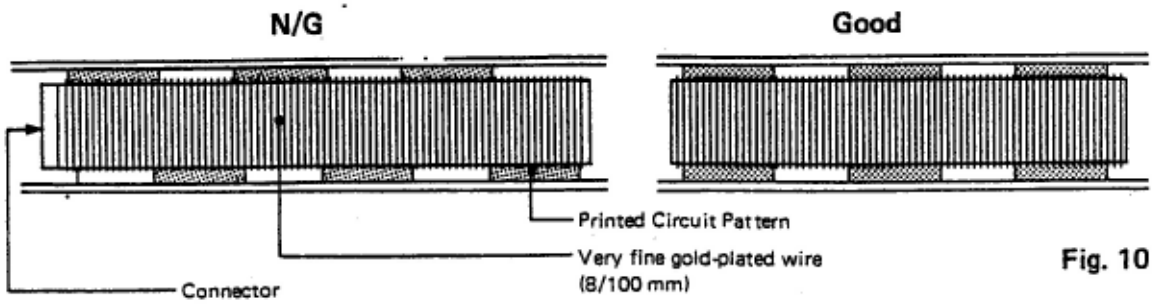


Fig. 10

[Information]
Elastic Connector—Newly installed parts to this model for making more reliable electrical conduction between two electronic components, saving more space inside of the camera and easier installation and handling in the camera assembling line rather than using solder.

The material and construction of this elastic connector is;
very fine gold wires are embedded vertically in two rows in a piece of silicon impregnated rubber and the distance between each gold wire is about only 8/100 mm.

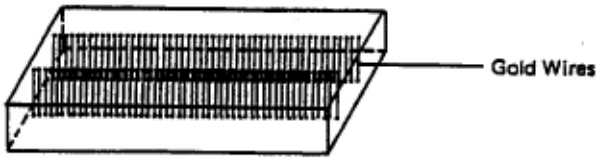


Fig. 11

And, 3 pcs. of elastic connectors are being used, such as Time LED Connector, T.C. Connector and Release Connector.

e) Remove Mount Base S.S.(61925027x4, 131905x1) and Mount Base Ass'y gently. (Mount Base Ass'y will be removed together with ASA Base Plate Ass'y, FPC and Mirror Box Ass'y.) (fig. 12)

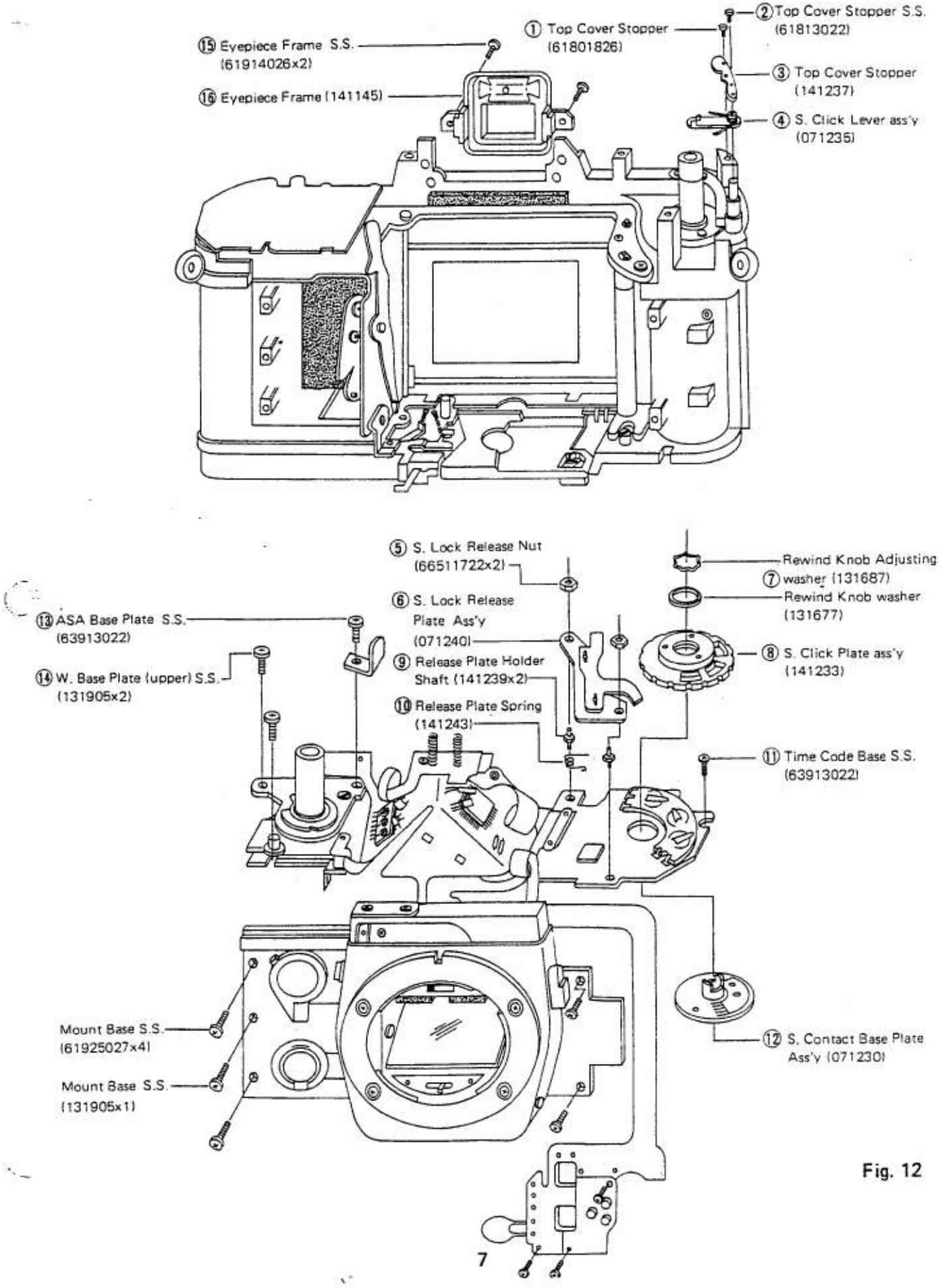

⑮ Eyepiece Frame S.S. (61914026x2)
⑯ Eyepiece Frame (141145)
① Top Cover Stopper (61801826)
② Top Cover Stopper S.S. (61813022)
③ Top Cover Stopper (141237)
④ S. Click Lever ass'y (071235)
⑤ S. Lock Release Nut (66511722x2)
⑥ S. Lock Release Plate Ass'y (071240)
⑦ Rewind Knob Adjusting washer (131687)
Rewind Knob washer (131677)
⑧ S. Click Plate ass'y (141233)
⑨ Release Plate Holder Shaft (141239x2)
⑩ Release Plate Spring (141243)
⑪ Time Code Base S.S. (63913022)
⑫ S. Contact Base Plate Ass'y (071230)
⑬ ASA Base Plate S.S. (63913022)
⑭ W. Base Plate (upper) S.S. (131905x2)
Mount Base S.S. (61925027x4)
Mount Base S.S. (131905x1)

Fig. 12

3 ASSEMBLING OF THE MOUNT BASE ASS'Y TO THE CAMERA BODY.

a) Replace the Mount Base ass'y to the camera body carefully while inserting the 4 lead wires (blue, orange, gray, pink) into the slot at the bottom of the camera. (fig. 13)
But, Do not fix the Mount Base ass'y with Mount Base S.S.yet!

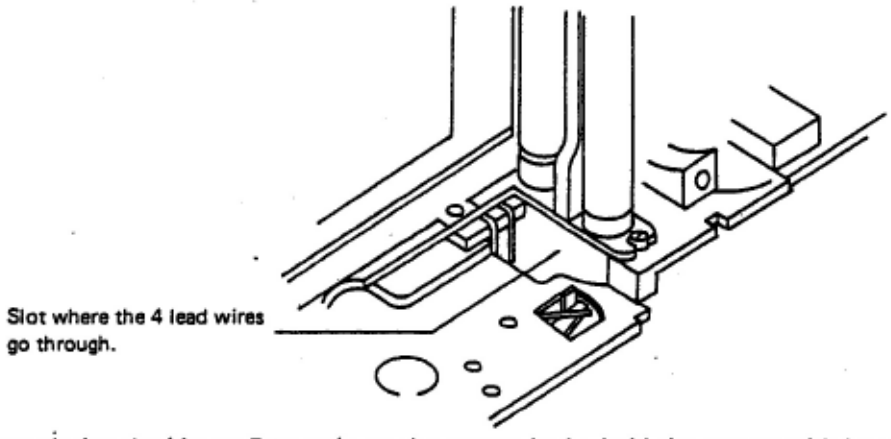


Fig. 13

b) After placing the Mount Base ass'y on the camera body, hold the camera with Lens Mount facing up. (Do not apply any pressure on the Lens Mount ass'y)

c) Push the Hook Lever for Mechanical-bulb with a needle or similar in the direction of the arrow for coupling with the inside shutter mechanism lever correctly. The Mount Base ass'y will move up when pushing the Hook Lever for Mechanical-bulb, and come down as the mechanism levers are engaged correctly. (fig. 14)

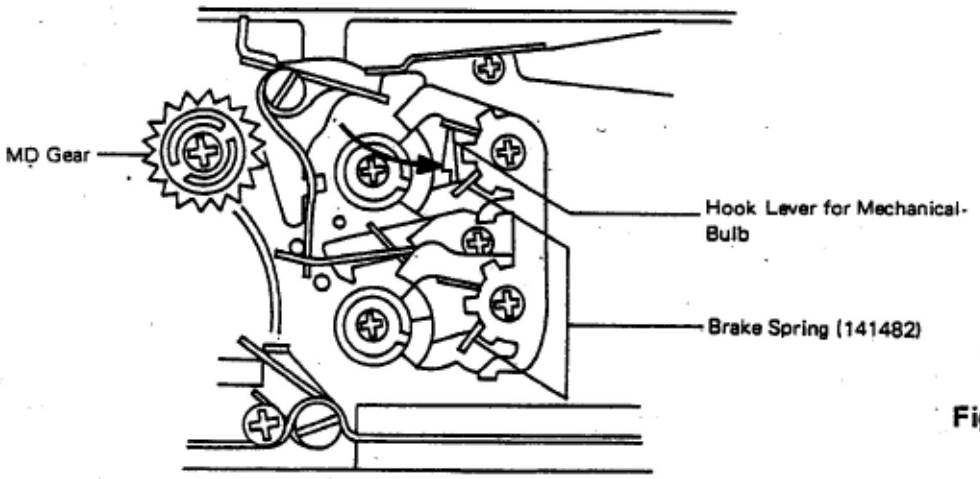


Fig. 14

d) However, to make sure whether the above c) was carried out correctly.

(1) Temporarily, fix the Mount Base ass'y with 2 Mount Base S.S.

(2) Make sure the Mechanical Lever-2 functions smoothly when the mechanical shutter release button (Depth of Field Preview Button) is depressed. (fig. 15)

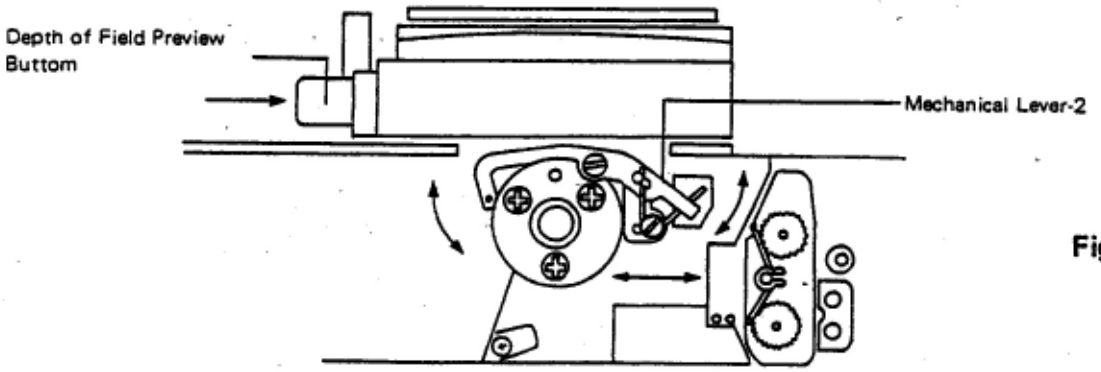


Fig. 15

4. DISASSEMBLING OF SHUTTER MECH. ASS'Y FROM THE CAMERA BODY

(1) Pin-Registration

[Information]

Pin-Registration — The Position of the perforation of the exposed area on the negative or transparency film.

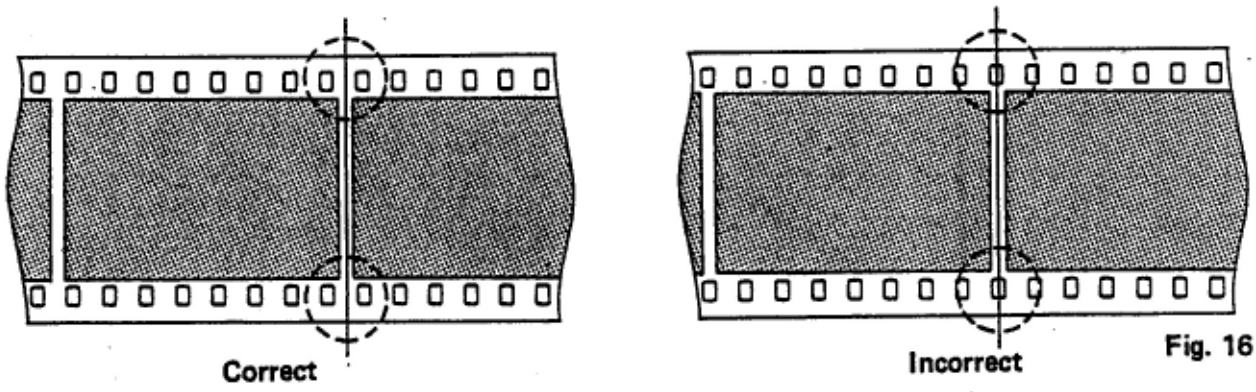


Fig. 16

Incorrect Pin-Registration may cause difficulty to mount the slide film with certain types of mounts.

[Precautionary Step for disassembling the Shutter Mech. Ass'y from the camera bldy]

After cocking shutter and before disassembling the Shutter Mech. Ass'y from the camera body, put marks on the tooth of the MD Gear (141694) and E Gear (141673) for indicating the original gear — engaged position. (fig. 17)

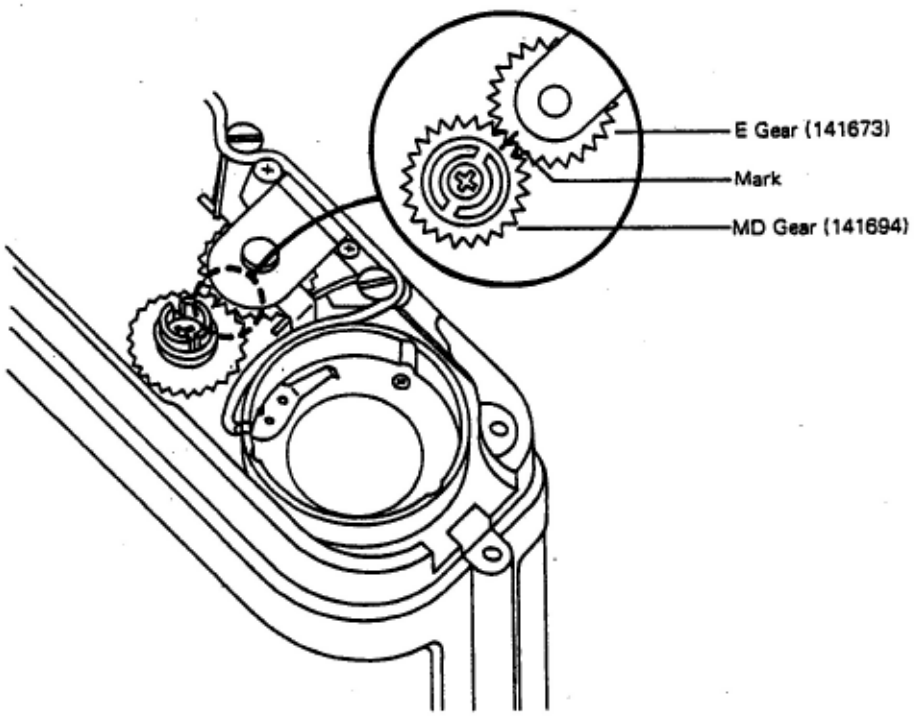


Fig. 17

Removing the Shutter Mech. Ass'y from the camera body without taking this precautionary step causes incorrect Pin-Registration when reassembled.

Pin-Registration Adjustment

The following adjustment is performed after the camera is completely assembled.
(Make sure the Release Pin (141664) is engaged with Clutch Shaft (141671) before proceeding with repair)

1. Remove 2 Sprocket S.S. (62511824 x 2) while advancing the Winding Lever and complete the advancing.
2. Mount the Pin-Registration Gauge (#Q511527) on to the film gate properly and rotate the Sprocket while pushing the Winding Lever to the advancing direction for eliminating the affection of the back lash of the relevant gears and other mechanical parts, and when the tooth of the Sprocket falls into slot of gauge, lock the Sprocket at this position with the Sprocket S.S. However, prior to inserting the Sprocket S.S. to the Sprocket make sure the hole for the Sprocket S.S. is not over the split portion of the Clutch Shaft (141671) as the Sprocket S.S. will not hold. In such a case, turn the Sprocket teeth one or two notches away from the split portion of Clutch Shaft. (fig. 18)

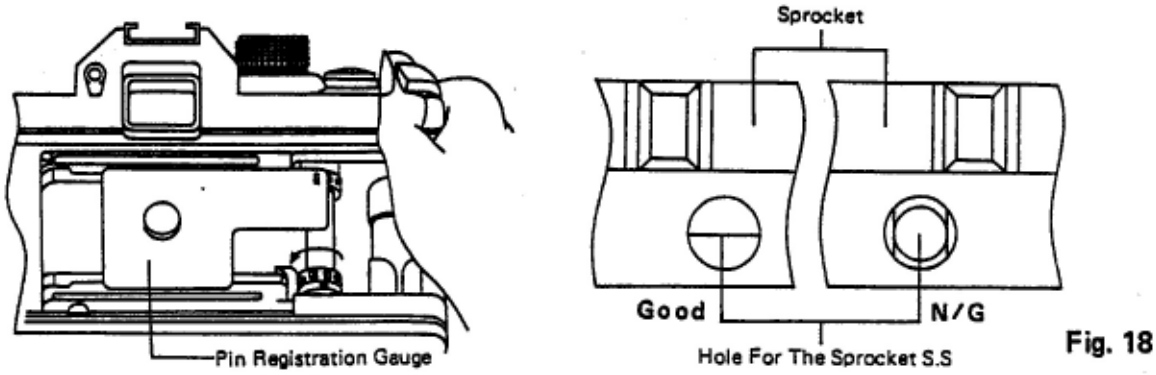


Fig. 18

(2) Disassembling of the Shutter Mech. Ass'y from the Camera Body

a) Unsolder green lead wire from R. Socket at Release Base Plate (fig. 19) and a brown lead wire at "X" contact (fig. 20).

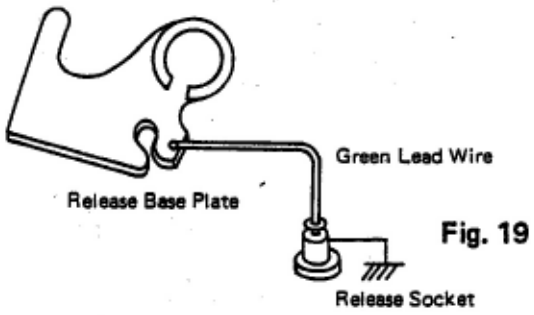


Fig. 19

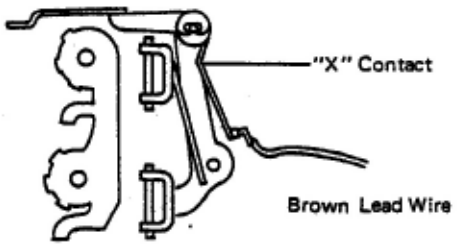


Fig. 20

b) Loosen R. Socket S.S. (141139) and Remove R. Socket
c) Remove the respective parts ① ~ ⑦ shown in (fig. 21) in numerical order.

[Note for disassembling and reassembling]

a) F. Gear Release Shaft (141675) (fig. 21) easily falls off when the camera body is turned upside-down.
b) Make sure the F. Gear Release Shaft is in position when reassembling.

Shutter Mech Ass'y

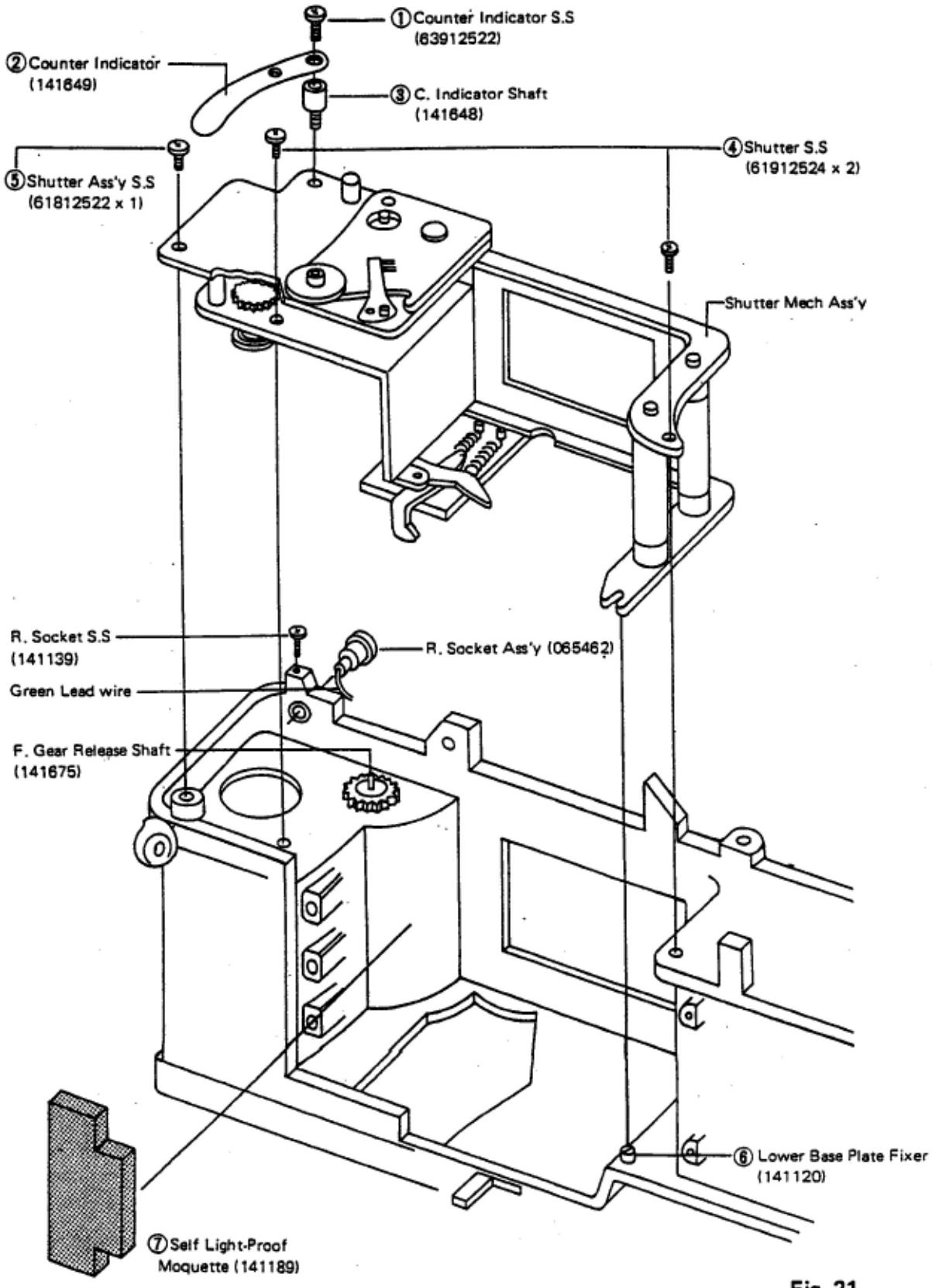

① Counter Indicator S.S (63912522)
② Counter Indicator (141649)
③ C. Indicator Shaft (141648)
④ Shutter S.S (61912524 x 2)
⑤ Shutter Ass'y S.S (61812522 x 1)
Shutter Mech Ass'y
R. Socket S.S (141139)
R. Socket Ass'y (065462)
Green Lead wire
F. Gear Release Shaft (141675)
⑥ Lower Base Plate Fixer (141120)
⑦ Self Light-Proof Moquette (141189)

Fig. 21

5. REPLACEMENT PROCEDURE OF 1st (071357) & 2nd (071358) SHUTTER CURTAIN ASS'Y.

[Information]
Special Titanium Shutter Curtains with a thickness of 0.015mm are used in this model, and it helps to reduce the total shutter curtain weight to just half that of standard cloth curtains. These Titanium curtains are extremely resistant to temperature changes so that they are exceptionally consistent in performance under conditions of extreme heat or cold. In addition, they are amazingly durable. But curtain material itself is very delicate, therefore, extra care is required when handling them during the repair.

(1) Disassembling of 1st & 2nd shutter curtain ass'y from the Shutter Mech. Ass'y (This operation can be performed after completion of **"1. DISASSEMBLING OF THE EXTERIOR PARTS"** on page 2. **"2. DISASSEMBLING OF THE MOUNT BASE ASS'Y"** on page 4 and **"4. DISASSEMBLING OF SHUTTER MECH. ASS'Y FROM THE CAMERA BODY"** on page 9.)

a) Remove the Spring Pin (66662230x2) from the First Curtain Gear (141398) and Second Curtain Gear (141399). (fig. 22)
b) Discharge the spring tension of 1st & 2nd shutter curtains respectively by turning the Ratchet Wheel (137488x2) clockwise until the curtains becomes very slack and then remove the both Ratchet Wheels.
c) Remove the respective parts ①~③ shown in (fig. 22) in numerical order. (To remove ② and ③ from the 2nd shutter curtain shaft (141356) rotate the Rotary Limit Guide (141391) about 90° counterclockwise.)

[Note for screwing or unscrewing the Curtain Adjusting Plate S.S. (141360).]
(a) Applying excessive pressure onto the Curtain Adjusting Plate S.S. may deform or bend the shutter curtain shaft.
(b) Use the proper screw driver with extra caution when screwing or unscrewing the Curtain Adjusting Plate S.S., if the screw driver tip slips from the set screw it may damage the shutter curtain.
(c) Repeated screwing or unscrewing of the Curtain Adjusting Plate S.S. may damage the screw thread of shutter curtain shaft.

d) Remove ④ Upper Base Plate S.S. (61813022x1). (fig. 22)
e) Pull downwards the 1st shutter curtain shaft together with First Curtain Hook Plate (141389), Rotary Limit Guide (141391), First Curtain Stopper (141392) First Curtain Stopper S.S. (66001054) and First Curtain Hook Plate S.S. (66002002) carefully.
f) Pull downwards the 2nd shutter curtain shaft in the same manner as e).
g) Remove the 1st & 2nd shutter curtain shaft from the Shutter Mech. Ass'y.
h) Remove the 1st & 2nd shutter curtain ass'y while slightly raising the Upper Base Plate.

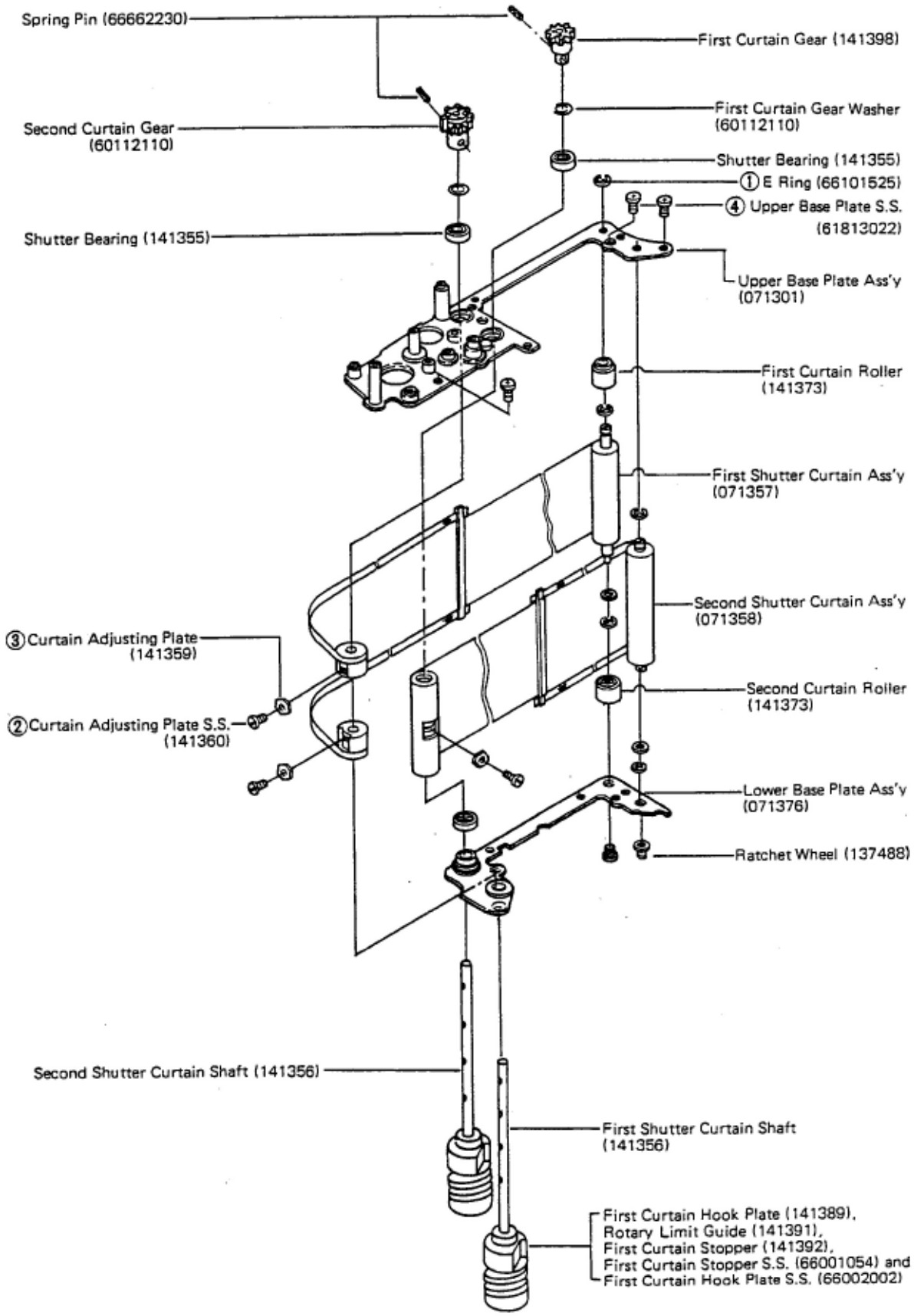

Spring Pin (66662230)
First Curtain Gear (141398)
First Curtain Gear Washer (60112110)
Second Curtain Gear (60112110)
Shutter Bearing (141355)
① E Ring (66101525)
④ Upper Base Plate S.S. (61813022)
Shutter Bearing (141355)
Upper Base Plate Ass'y (071301)
First Curtain Roller (141373)
First Shutter Curtain Ass'y (071357)
Second Shutter Curtain Ass'y (071358)
③ Curtain Adjusting Plate (141359)
Second Curtain Roller (141373)
② Curtain Adjusting Plate S.S. (141360)
Lower Base Plate Ass'y (071376)
Ratchet Wheel (137488)
Second Shutter Curtain Shaft (141356)
First Shutter Curtain Shaft (141356)
First Curtain Hook Plate (141389), Rotary Limit Guide (141391), First Curtain Stopper (141392), First Curtain Stopper S.S. (66001054) and First Curtain Hook Plate S.S. (66002002)

Fig. 22

(2) **Reassembling of the 2nd Shutter Curtain Ass'y to the Shutter Mech. Ass'y.**

a) Fix the 2nd Shutter Curtain SP Drum between Upper Base Plate Ass'y (071301) and Lower Base Plate Ass'y (071376) properly. (fig. 22) or (fig. 23)

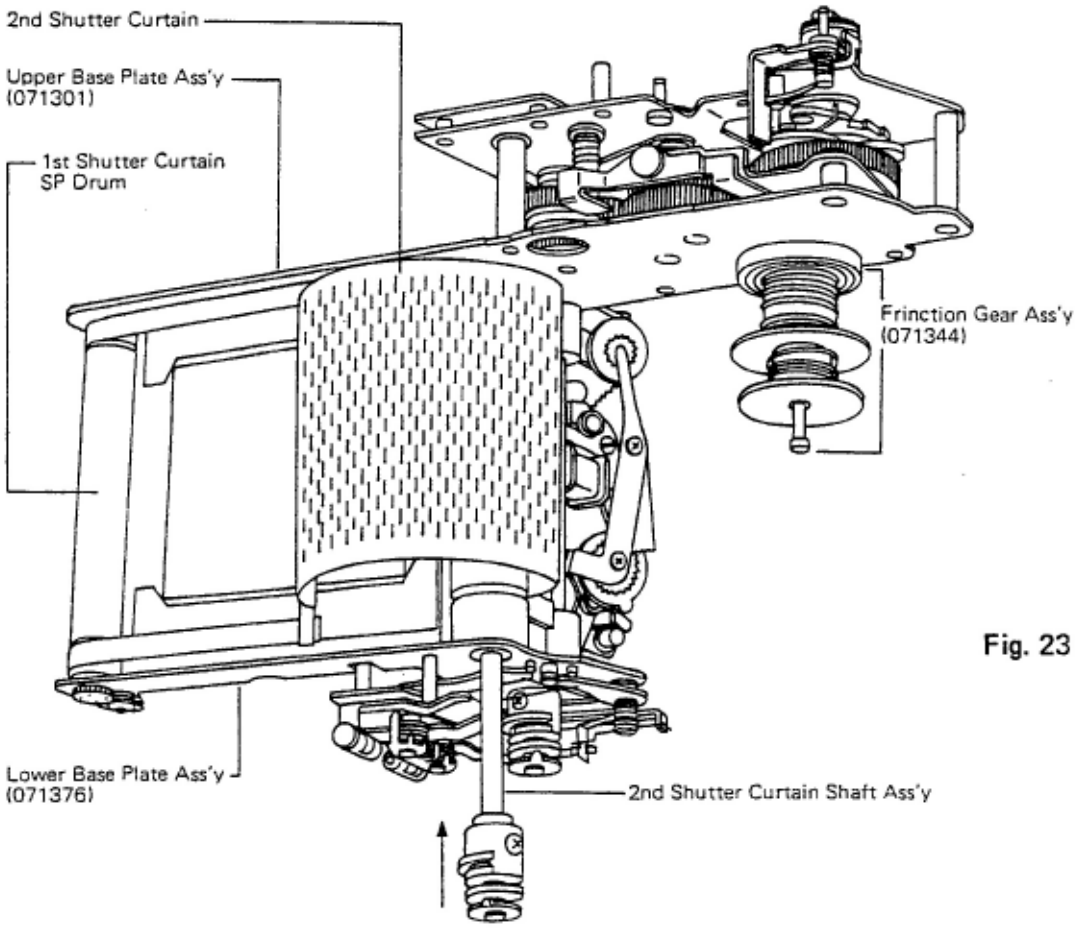

2nd Shutter Curtain
Upper Base Plate Ass'y (071301)
1st Shutter Curtain SP Drum
Frinction Gear Ass'y (071344)
Lower Base Plate Ass'y (071376)
2nd Shutter Curtain Shaft Ass'y

Fig. 23

b) For a preparation of the following procedure, insert the Spring Pin (66662230) to the Second Curtain Gear (141399) about 1/3 deep of its length. (fig. 24)

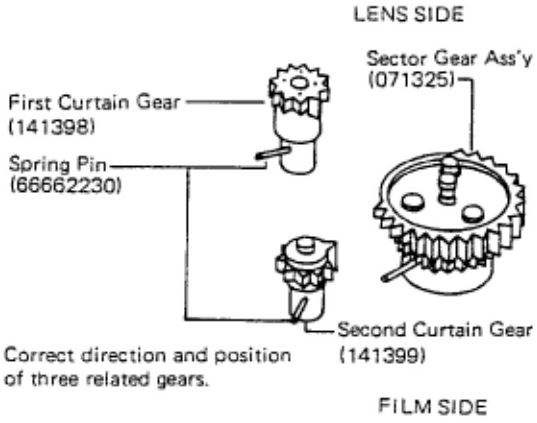


Fig. 24

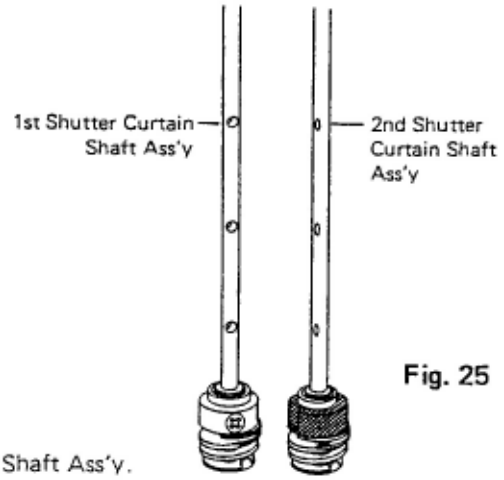


Fig. 25

[Note]
How to distinguish the 1st and 2nd Shutter Curtain Shaft Ass'y.

c) Fix the Second Curtain Gear and 2nd Shutter Curtain Drum to the Shutter Mech. Ass'y by inserting the 2nd Shutter Curtain Shaft Ass'y from the bottom of Shutter Mech. Ass'y.
(At this stage, the Second Curtain Gear should not be fixed to the 2nd Shutter Curtain Shaft with the Spring Pin yet.) (fig. 23)

d) Rotate the 2nd Shutter Curtain Shaft Ass'y counterclockwise until it stops and engage the Brake Lever to the ditch of Rotary Limit Guide (141391). (fig. 26)

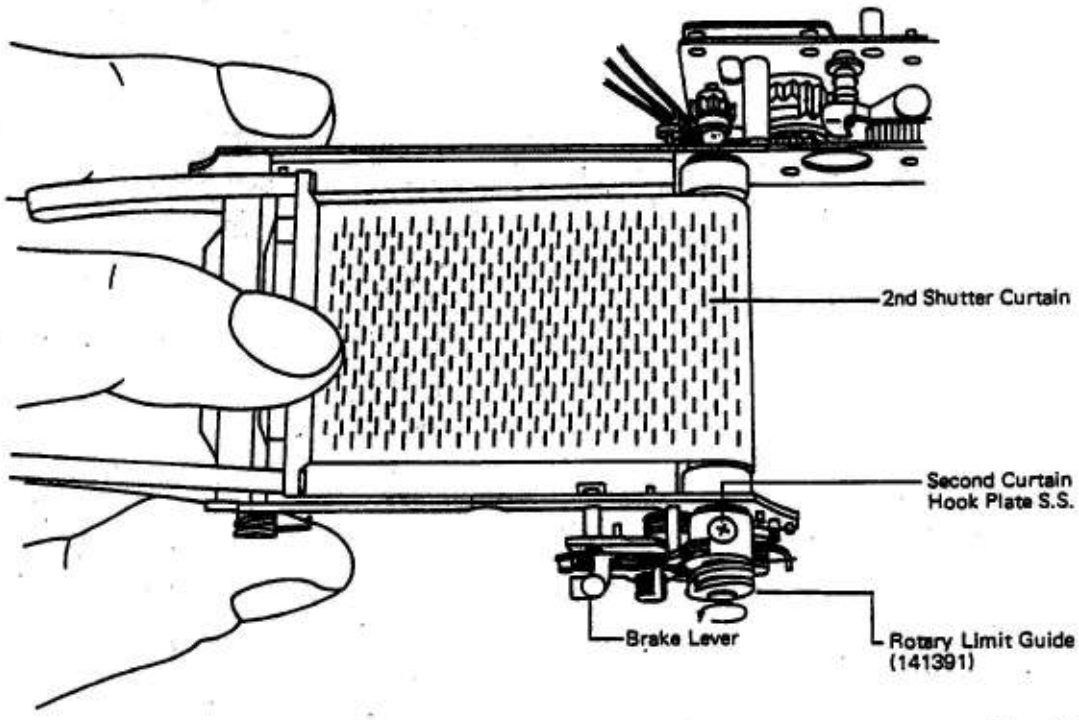


Fig. 26

e) Fix the Second Curtain Gear to the 2nd Shutter Curtain Shaft by inserting the Spring Pin.
[Note]
Pay attention to the direction and position of a large tooth on a Second Curtain Gear (fig. 24)

f) Place and hold the 2nd shutter curtain as shown in (fig. 26) and fix the 2nd Shutter Curtain Drum to the 2nd Shutter Curtain Shaft with a Curtain Adjusting Plate (141359) and Curtain Adjusting Plate S.S. (141360) (fig. 22) or (fig. 23)

g) Fix the Ratchet Wheel and turn it 2 turns. (fig. 22)

(3) Reassembling of the 1st Shutter Curtain Ass'y to the Shutter Mech. Ass'y.

This operation can be performed almost same procedure as 2nd Shutter Curtain Ass'y operation, however, we advise you to refer to the other Shutter Mech. Ass'y in order to install the 2nd Shutter Curtain Ass'y without any confusion.

When fixing the 1st Shutter Curtain Drum to the 1st Shutter Curtain Shaft with two of the Curtain Adjusting Plates (141359x2) and Curtain Adjusting Plate S.S. (141360x2) refer to the (fig. 27)&(fig. 28)

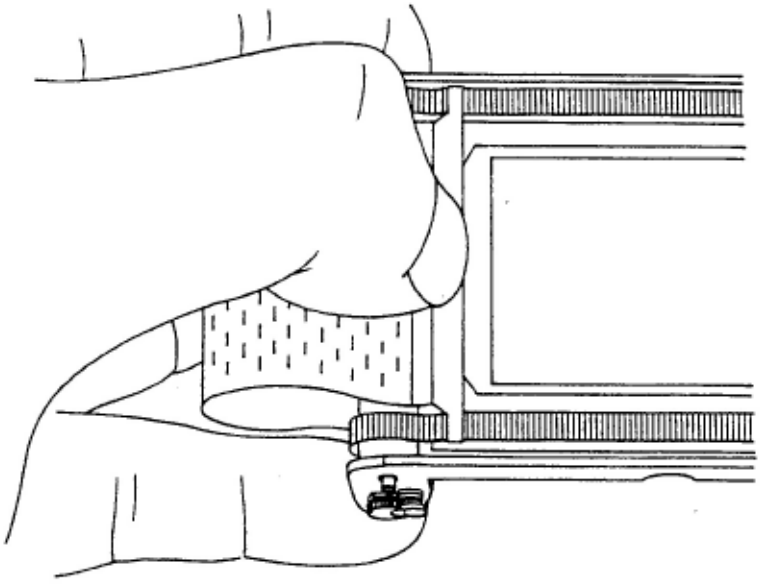


Fig. 27

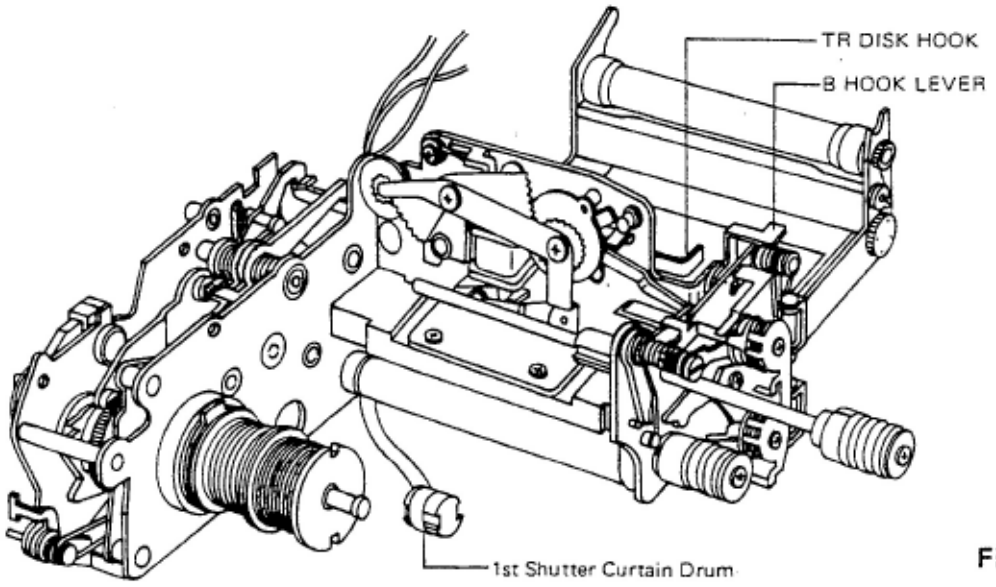


Fig. 28

(4) Adjustment of shutter curtain position.

2nd Shutter Curtain

a) Cock the shutter by turning the Friction Gear Ass'y (071344) clockwise. (fig. 23)
b) Release the 1st Shutter Curtain by pushing the TR DISK HOOK. (fig. 28)
c) Check the 2nd Shutter Curtain position.
- The metal edge of the 2nd shutter curtain should be located on the center of as shown in (fig. 29) .
- The 2nd shutter curtain position adjustment can be performed by changing the direction of Curtain Adjusting Plate (141359). (fig. 22)

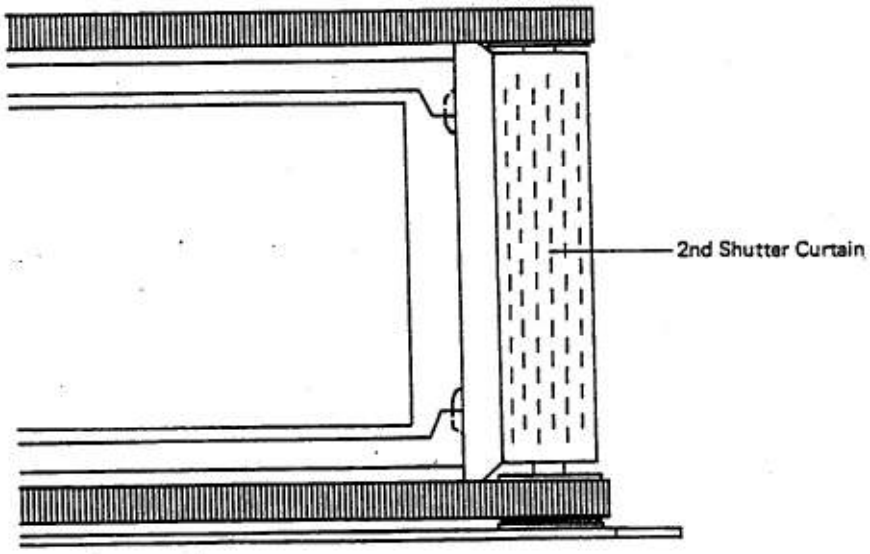


Fig. 29

d) Release the 2nd Shutter Curtain by pushing the B HOOK LEVER. (fig. 28)
e) Again cock the shutter.

1st Shutter Curtain

f) Check the 1st Shutter Curtain position.
- The metal edge of the 1st Shutter Curtain should just slightly touch to the metal edge of the 2nd Shutter Curtain or overlaps with the 2nd Shutter Curtain but not more than 0.2mm (fig. 30).
- The 1st Shutter Curtain should be in parallel with the 2nd Shutter Curtain.
- The 1st Shutter Curtain position adjustment can be performed by changing the direction of 2 x Curtain Adjusting Plates (2x141359). (fig. 22)

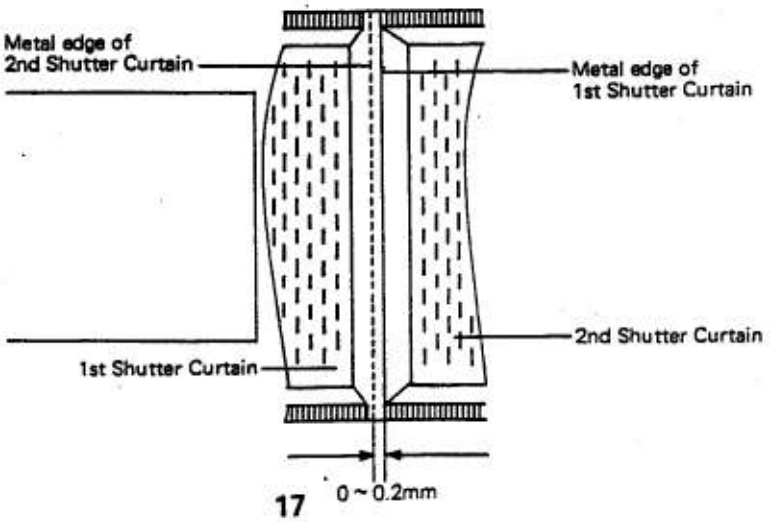


Fig. 30

6. EXPLANATION OF THE MECHANICAL SHUTTER MECHANISM.

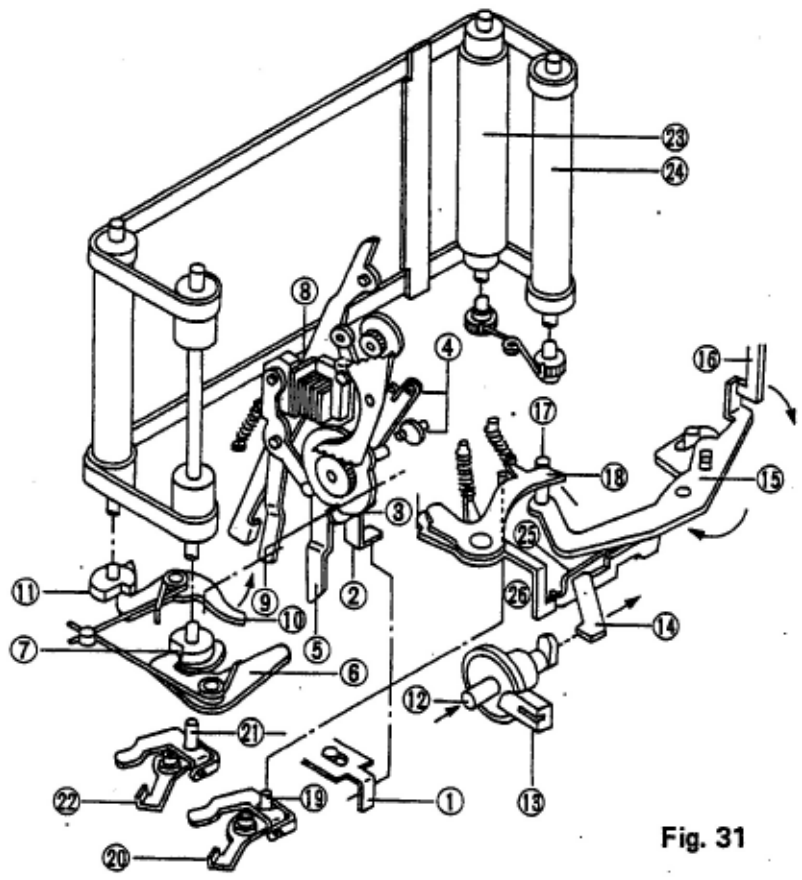


Fig. 31

① TR CONNECTING LEVER
② (TR DISK HOOK)
③ (TR DISK)
④ TR SWITCH
⑤ (PRIMARY CURTAIN TR)
⑥ FIRST CURTAIN HOOK LEVER
⑦ FIRST CURTAIN HOOK PLATE
⑧ SHUTTER MAGNET
⑨ (SECOND CURTAIN TR)
⑩ SECOND CURTAIN HOOK LEVER
⑪ SECOND CURTAIN HOOK PLATE
⑫ DIAPHRAGM BUTTON
⑬ MECHANICAL CHANGE LEVER
⑭ MECHANICAL LEVER (1) ASS'Y
⑮ MECHANICAL LEVER (2) ASS'Y
⑯ RL (2) ASS'Y
⑰ (MECHANICAL TENSIONING ACTIVATING PIN)
⑱ (MECHANICAL HOOK LEVER)
⑲ X SYNCH. CONTACT PIN
⑳ BRAKE LEVER (F)
㉑ (T SW SIGNAL PIN)
㉒ BRAKE LEVER (S)
㉓ (FIRST CURTAIN DRUM)
㉔ (SECOND CURTAIN DRUM)
㉕ B. LEVER (2)
㉖ B HOOK LEVER

(1) Normal condition (Shutter operation other than mechanical shutter)
As ㉖ is always pressed to the left by ㉕, and ⑱ is pressed forward always by ⑰, they (㉖ & ⑱) do not hold⑨, thereby permitting the timing of the magnet to start the second shutter curtain.

(2) Mechanical shutter (1/50 sec.)
After the operation of the first shutter curtain the X contact pin ⑲ releases ⑱ to start the second shutter curtain to provide a shutter speed of 1/50 sec.
a) Set ⑬ for the position of mechanical shutter. At first, when ⑫ is pressed, ⑭ moves to the right, then ⑮ turns to the right freeing ⑧ and hooking ⑨ to hold the second shutter curtain. (At this stage ㉖ does not hold⑨)
b) When ⑫ is pressed further ⑯ is pressed to activate the Mirror Box and releases ⑥ and ⑦ to operate first shutter curtain.
c) When the first shutter curtain completes its operation the pin of ⑲ pushes ⑱ forward to release ⑨ when ⑨ is released it moves forward to turn ⑩ to the left to release ⑪ to permit the second shutter curtain to operate.

(3) Mechanical shutter "B" (With use of the Cable Release)
a) When the cable release button is pressed, ㉕ moves to the right freeing ㉖ and hooking ⑨.
b) When the cable release button is pressed further, ㉕ releases the Mirror Box mechanism to permit the first shutter curtain to operate. (At this stage ⑩ holds second shutter curtain.)
c) When the cable release button is released, ㉕ moves to left by the tension of spring to push ㉖, and ㉖ releases ⑨ to release ⑩ which permits the second shutter curtain to operate.

7. DISASSEMBLING AND REASSEMBLING OF THE WINDING MECHANISM

(1) Disassembling

a) Remove Top Cover, ASA Base Plate Ass'y and Release Connector.

b) Remove the respective parts ① ~ ⑧ shown in (fig. 32) in numerical order.

[Note for disassembling]

a) When removing the Winding Base Plate Ass'y, the Steel Balls (14 pcs.) come often together with A Gear Ass'y and falls into camera body, therefore, proceed with extra care.

b) Pay extra care to the Steel Balls (8 pcs.) for the same reason when removing C Gear.

c) Pay extra care to the Steel Balls (13 pcs.) for the same reason when removing the Idle Gear.

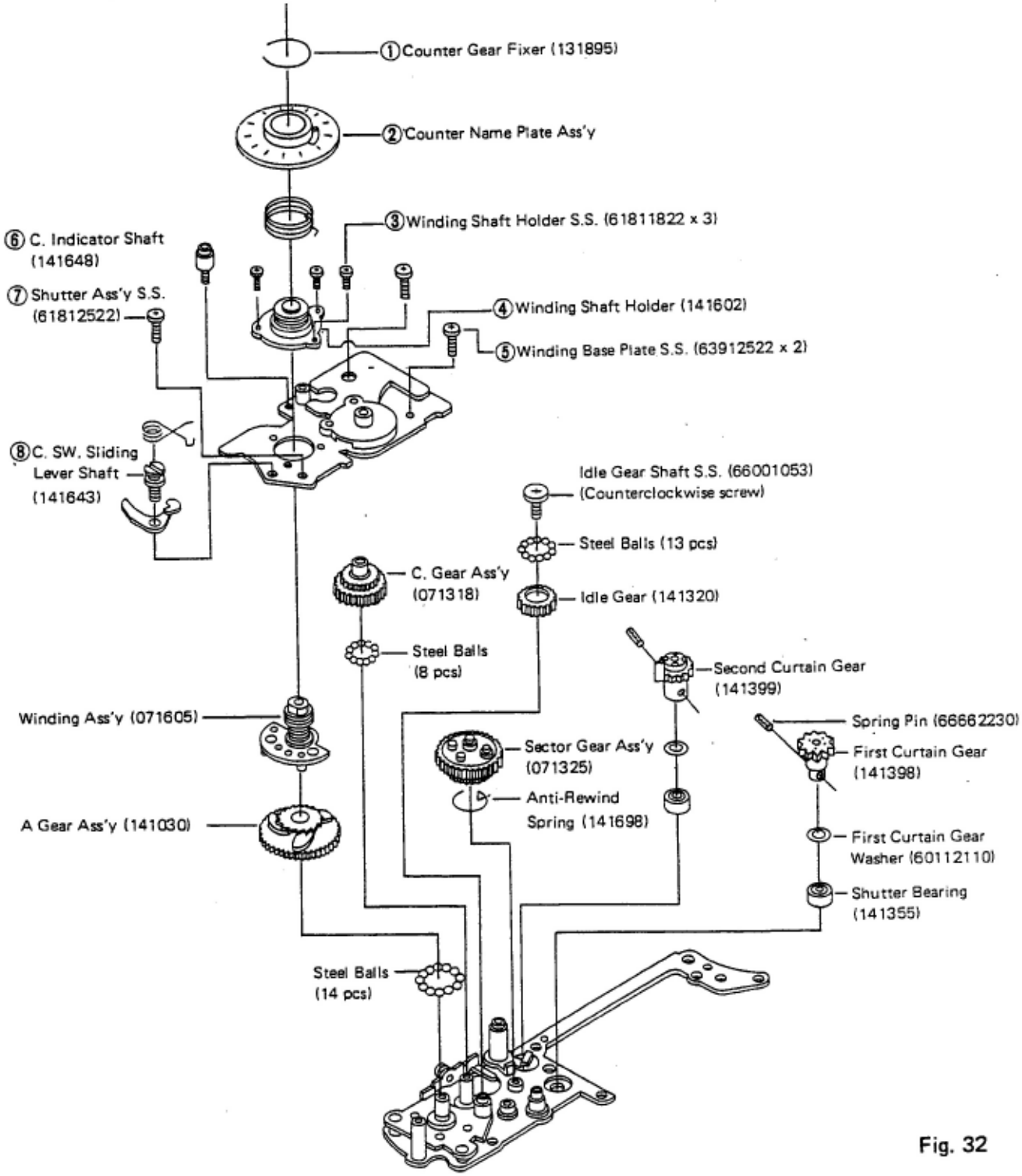

①Counter Gear Fixer (131895)
②Counter Name Plate Ass'y
③Winding Shaft Holder S.S. (61811822 x 3)
⑥C. Indicator Shaft (141648)
⑦Shutter Ass'y S.S. (61812522)
④Winding Shaft Holder (141602)
⑤Winding Base Plate S.S. (63912522 x 2)
⑧C. SW. Sliding Lever Shaft (141643)
Idle Gear Shaft S.S. (66001053) (Counterclockwise screw)
Steel Balls (13 pcs)
C. Gear Ass'y (071318)
Idle Gear (141320)
Steel Balls (8 pcs)
Second Curtain Gear (141399)
Winding Ass'y (071605)
Spring Pin (66662230)
Sector Gear Ass'y (071325)
First Curtain Gear (141398)
Anti-Rewind Spring (141698)
A Gear Ass'y (141030)
First Curtain Gear Washer (60112110)
Shutter Bearing (141355)
Steel Balls (14 pcs)

Fig. 32

(2) Reassembling

a) Before installing the respective gear it is recommended that the shutter is charged by the following procedure.

(1) Wind the second shutter curtain by turning the Second Curtain Stopper S.S. (66001054) clockwise with a Philips (+ tip) screw driver to a position past the middle of the aperture gate, and hold the second shutter curtain at this position.

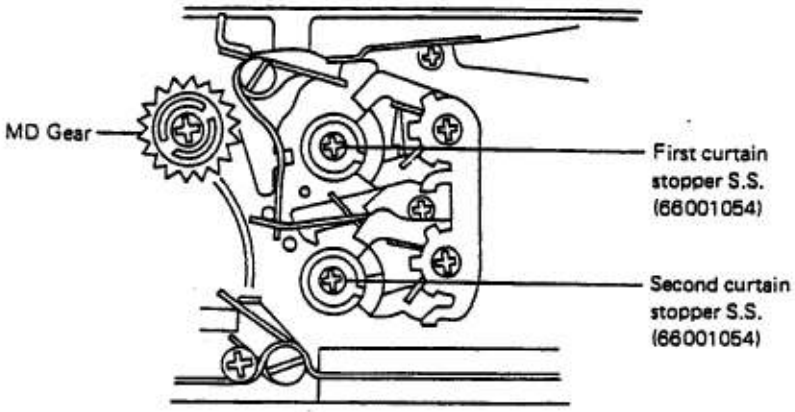


Fig. 36

(2) Set the Mirror Box Charge Lever by pressing the lever towards the back of the camera body until it stops with a click while the second shutter curtain is being held at the position as above mentioned.

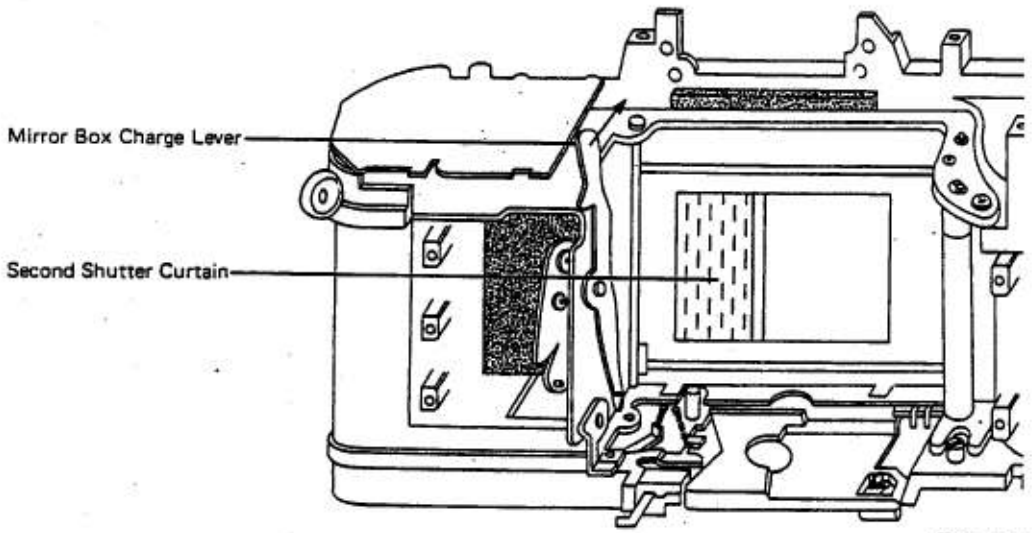


Fig. 37

(3) Again, wind the second shutter curtain with the screw driver until it stops.

(4) Wind the first shutter curtain by turining the First Curtain Stopper S.S. (66001054) clockwise completely.

b) Rotate the Sprocket and obtain the correct sprocket position for pin-registration by using the Pin-Registration Gauge.

c) Install the Sector Gear Ass'y (071325) to the correct position and direction as shown in (fig. 34).

[Note for installing the Sector Gear Ass'y.]

When installing the Sector Gear Ass'y make sure the Anti-Rewind Spring (141698) falls into the slot of the Sector Gear Clutch Claw (fig. 33), at the same time, the Stopper Claw Ass'y (071331) engages the groove on underside of the Sector Gear Ass'y (071325) as shown in (fig. 34).

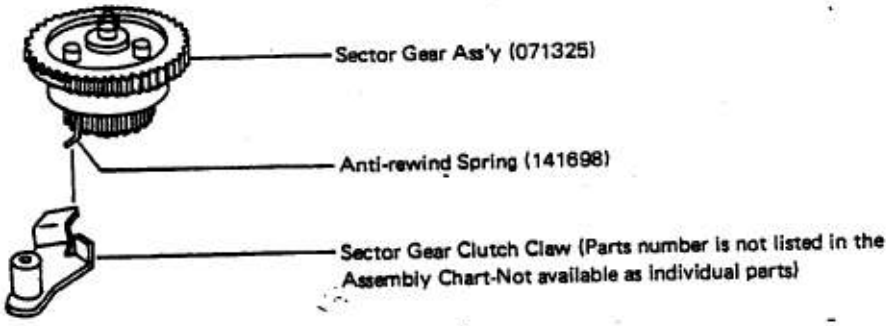

Sector Gear Ass'y (071325)
Anti-rewind Spring (141698)
Sector Gear Clutch Claw (Parts number is not listed in the Assembly Chart-Not available as individual parts)

Fig. 33

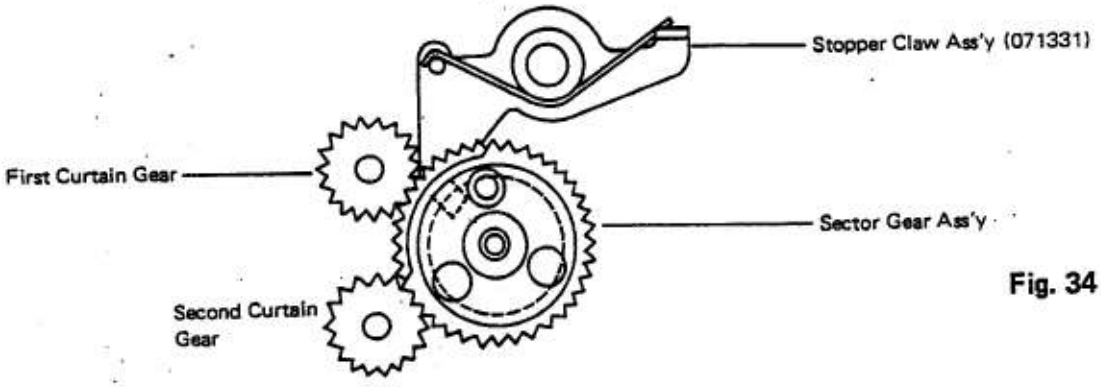


Fig. 34

d) Install the A Gear (141030) to the correct position and direction as shown in (fig. 35).

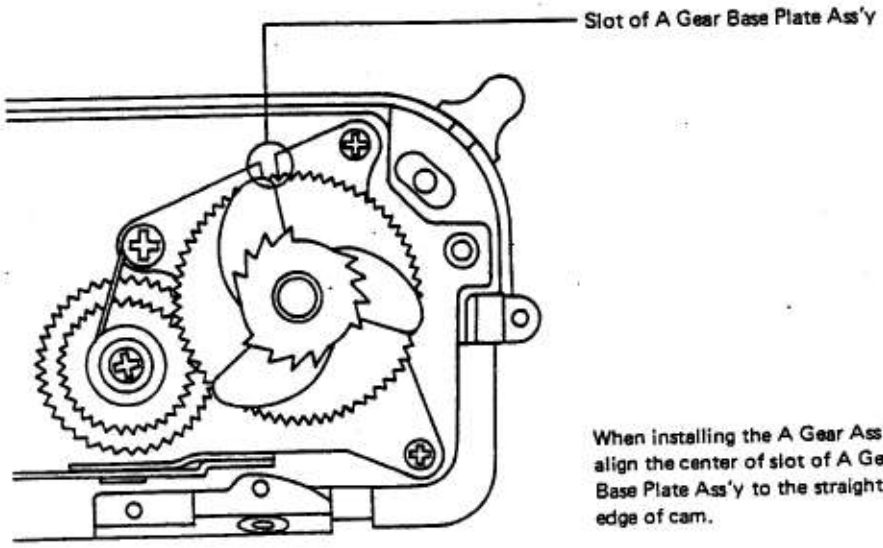


Fig. 35

When installing the A Gear Ass'y, align the center of slot of A Gear Base Plate Ass'y to the straight edge of cam.

e) Install the Winding Ass'y (071605) to the correct position and direction as shown in (fig. 38).

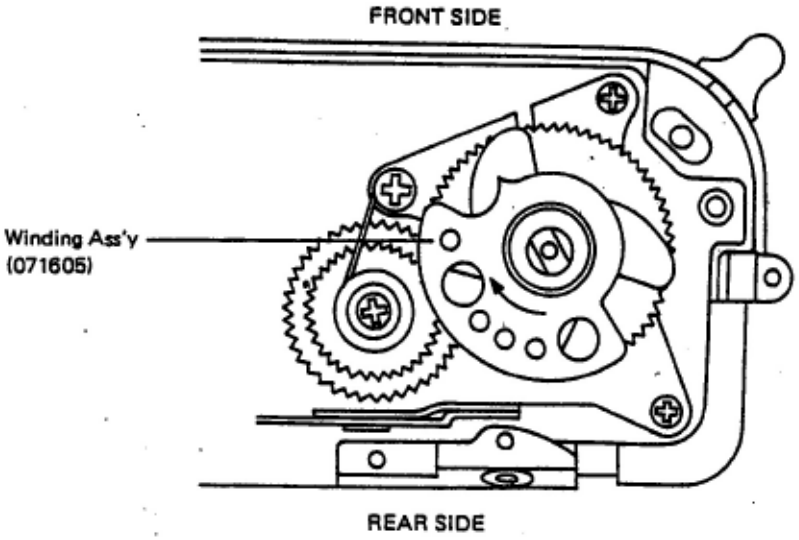
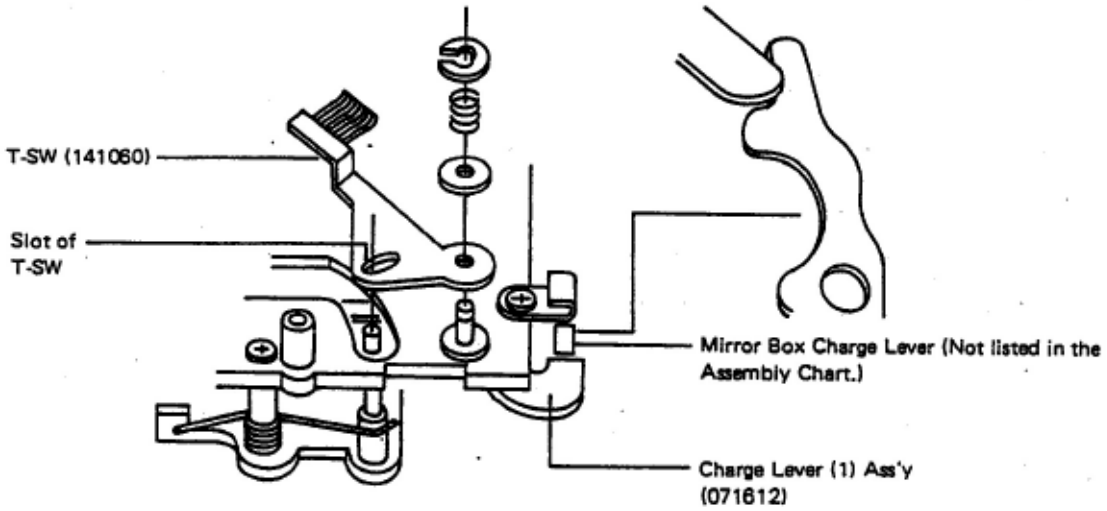


Fig. 38

f) Mount the Winding Base Plate Ass'y.

[Note for mounting the Winding Base Plate Ass'y.]

(1) When mounting the Winding Base Plate Ass'y, the Charge Lever (1) (071612) should engage from the front, the pin of the Stopper Claw Ass'y (071331) should engage into the slot of T-SW (141060) as shown in (fig. 39).



(2) The slot of the lever which is connected with the C. Feeding Claw Ass'y engages with the longest pin on the Sector Gear.

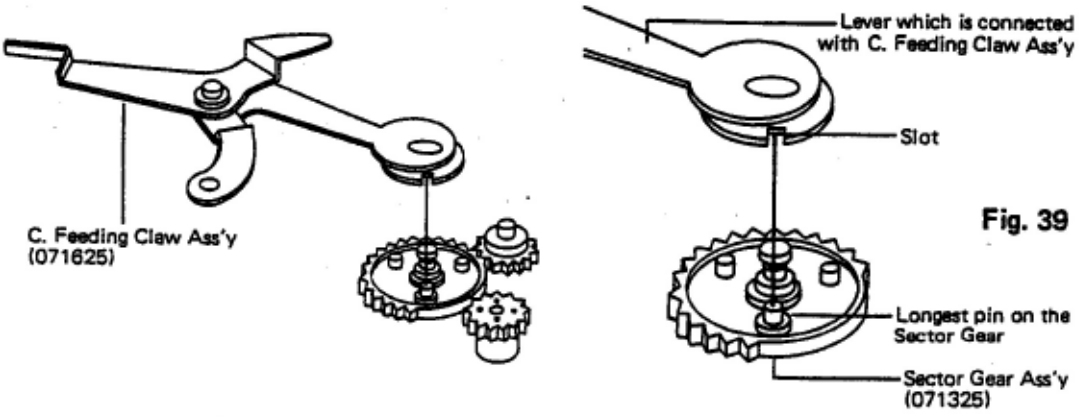


Fig. 39

g) Screw the C. Indicator Shaft (141648), Winding Base Plate S.S. 9 (63912522 x 2) and Shutter Ass'y S.S. (61812522).

h) Mount the Winding Shaft Holder.

8. REMOVAL OF THE SPROCKET from the camera body.
(After the removal of Shutter Mech. Ass'y from the camera body is completed.)

At the top of the camera body.

a) Remove the respective parts ① ~ ⑥ shown in (fig. 40) in numerical order.

At The Top Of Camera Body

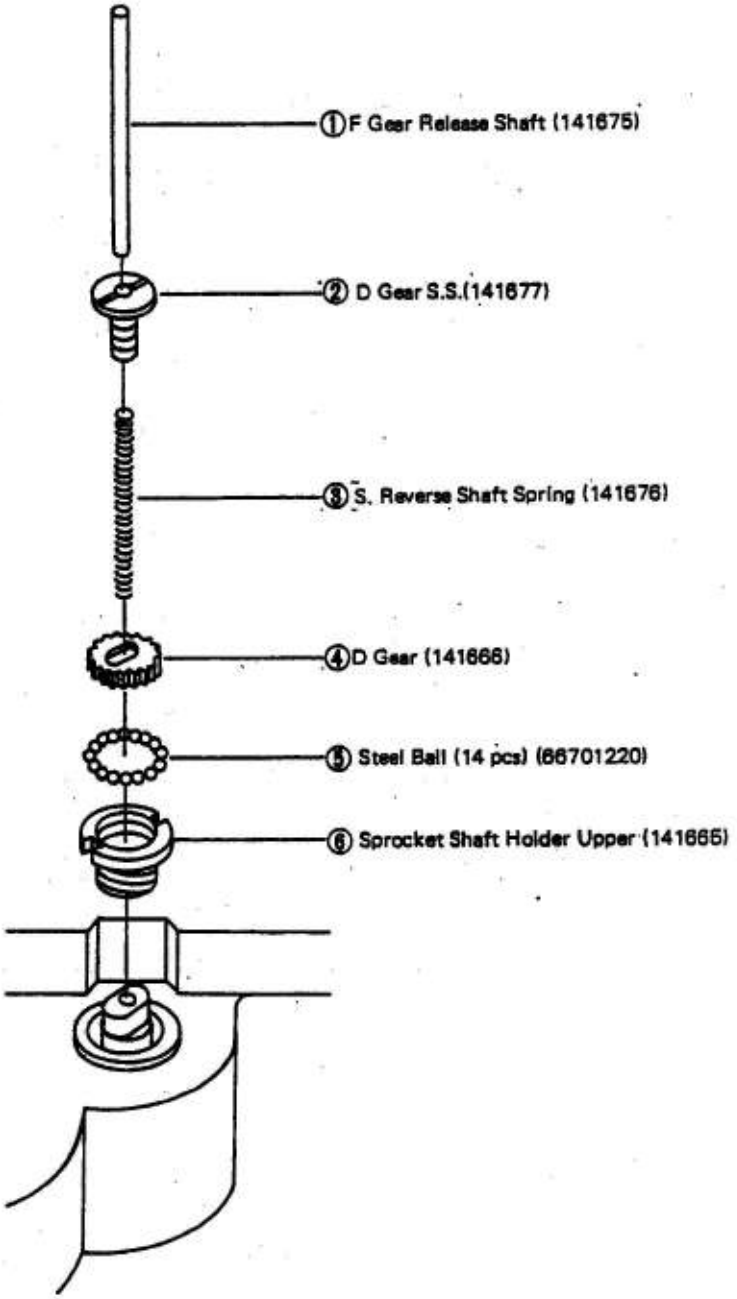

①F Gear Release Shaft (141675)
② D Gear S.S.(141677)
③S. Reverse Shaft Spring (141676)
④D Gear (141666)
⑤ Steel Ball (14 pcs) (66701220)
⑥ Sprocket Shaft Holder Upper (141665)

Fig. 40

At the bottom of the camera body

a) Remove the respective parts ① ~ ⑪ shown in (fig. 41) in numerical order.

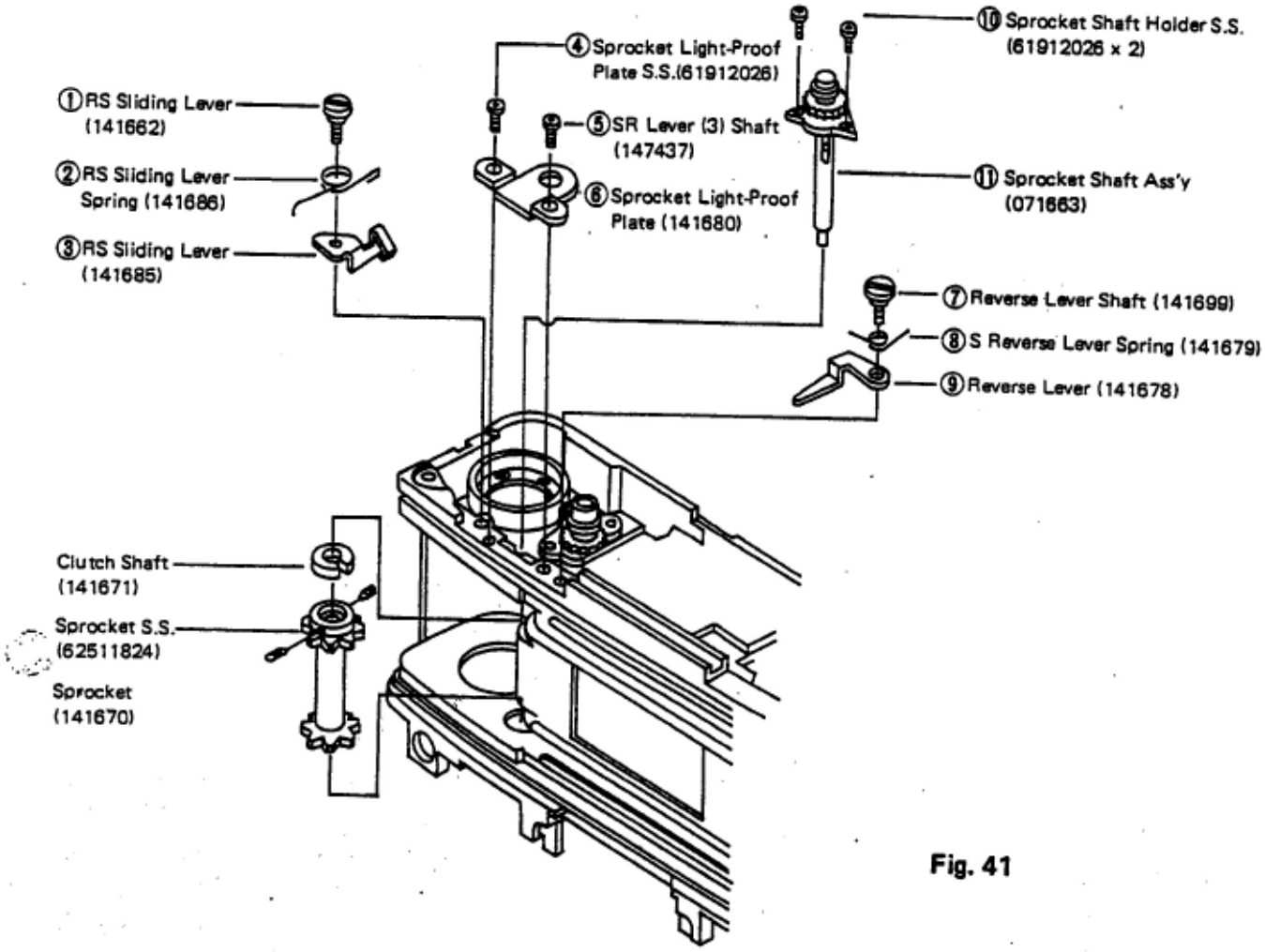

④Sprocket Light-Proof Plate S.S.(61912026)
⑩Sprocket Shaft Holder S.S. (61912026 x 2)
①RS Sliding Lever (141662)
⑤SR Lever (3) Shaft (147437)
②RS Sliding Lever Spring (141686)
⑥Sprocket Light-Proof Plate (141680)
⑪Sprocket Shaft Ass'y (071663)
③RS Sliding Lever (141685)
⑦Reverse Lever Shaft (141699)
⑧S Reverse Lever Spring (141679)
⑨Reverse Lever (141678)
Clutch Shaft (141671)
Sprocket S.S. (62511824)
Sprocket (141670)

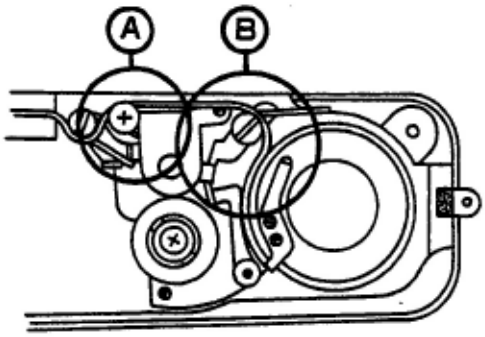
Fig. 41

After the repair is completed make sure to check and readjust the Pin-Registration. (See page on 10)
"DISASSEMBLING OF SHUTTER MECH. ASS'Y FROM THE CAMERA BODY")

9. MULTI-EXPOSURE MECHANISM

For a perfect multi-exposed picture the film should not move even slightly, and the exposure counter must not advance, when cocking the shutter.

The following illustrations are showing the parts position of normal and multi-exposure mode.



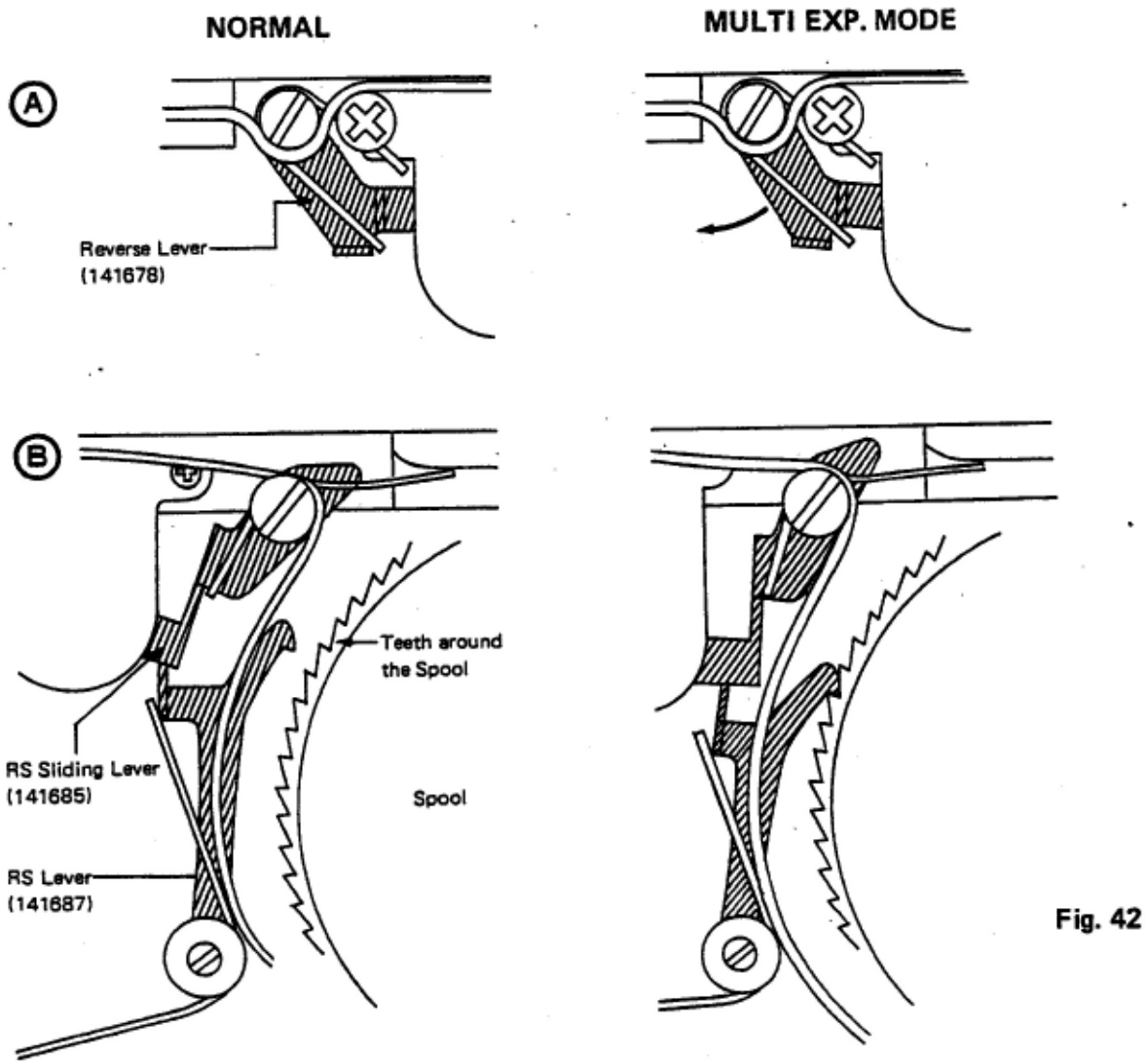
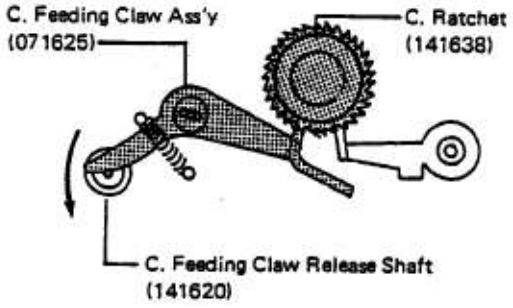


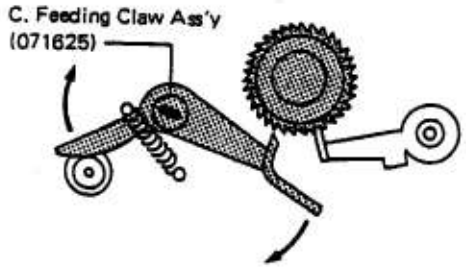
Fig. 42

RS Lever should clutch the Spool for preventing the rotation of Spool caused by film tension.

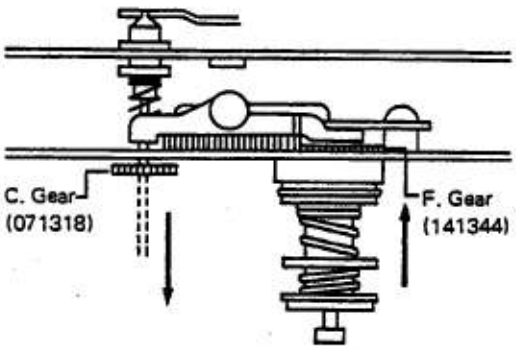
Normal

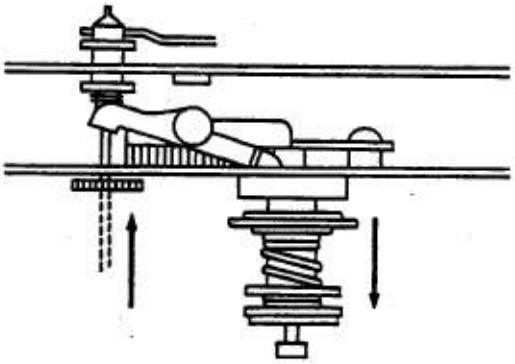


Multi-Exposure mode



C. Feeding Claw Ass'y should be disengaged from C. Ratchet to stop advancing the exposure counter.





F. Gear should be disengaged from C. Gear to let the spool free from Winding mechanism.

Fig. 43

10. DISASSEMBLING OF THE MIRROR BOX ASS'Y from the Mount Base Ass'y.

[Note for disassembling]

a) Make sure the mechanism on the mirror box should not be tensioned when removing it from the Mount Base Ass'y. If the mirror is activated after the mirror box is removed from the Mount Base Ass'y the mirror will be scratched or cracked by the Focusing Screen Holding Spring. (fig. 44)

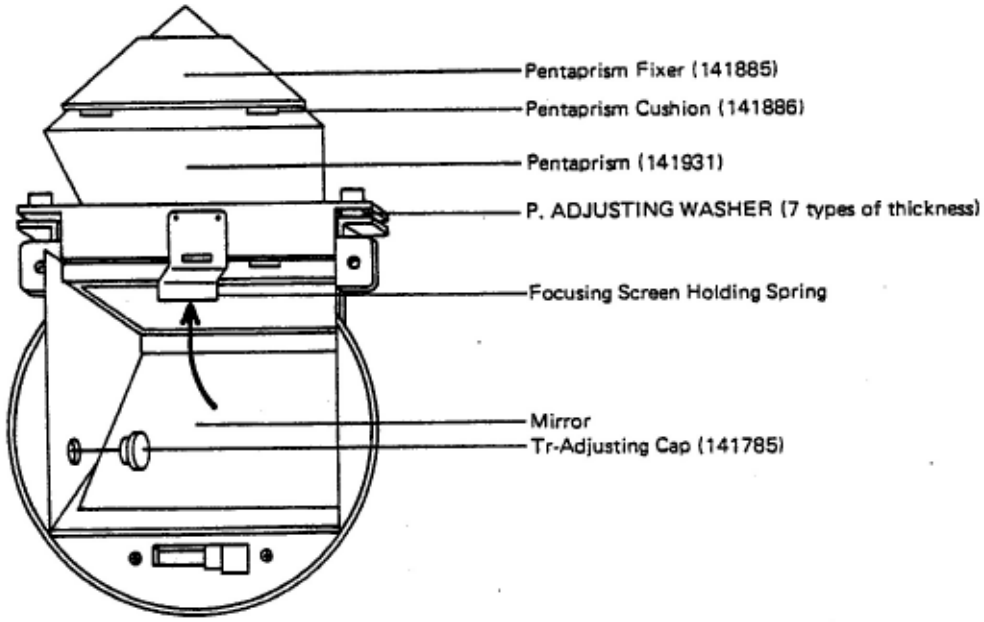


Fig. 44

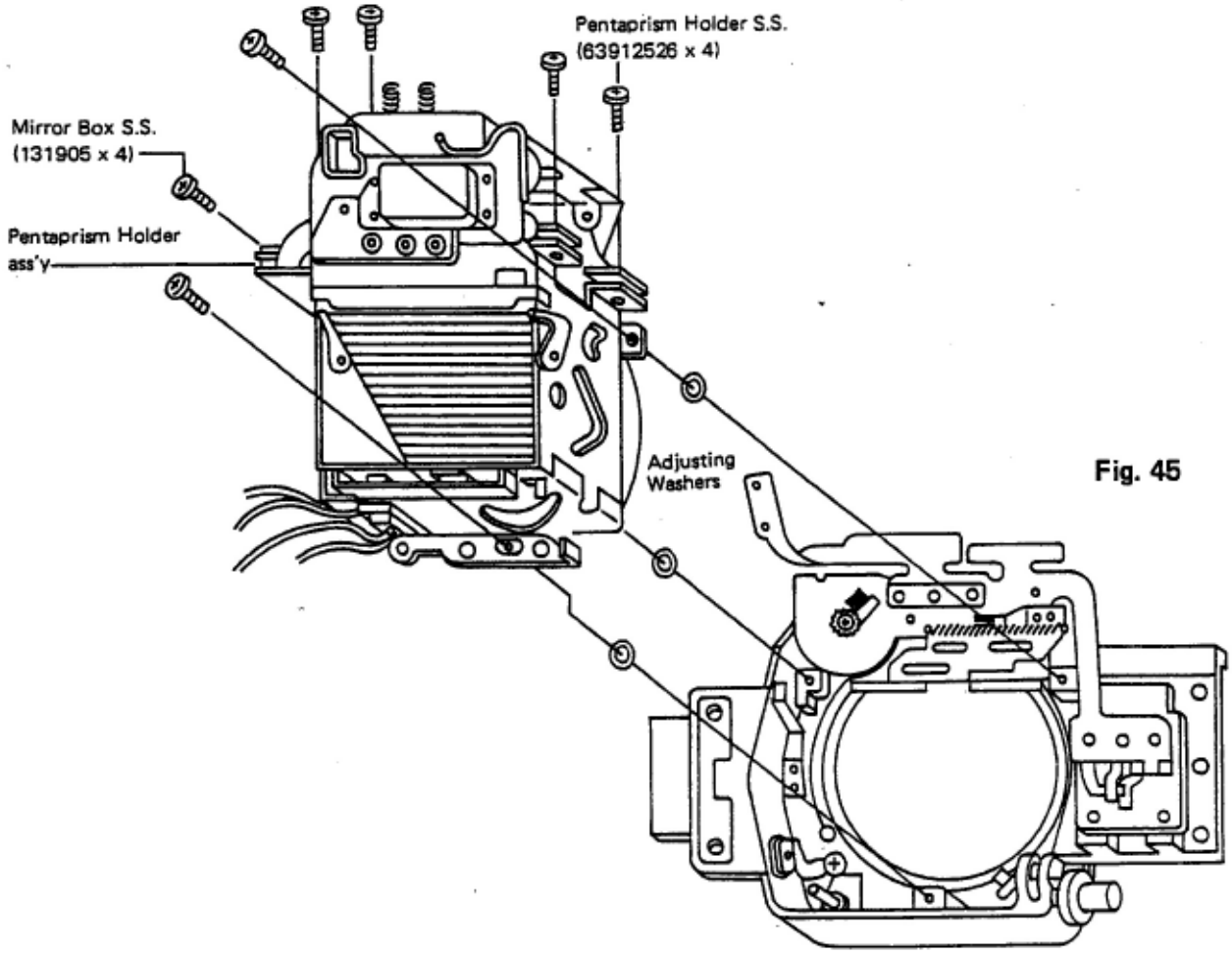


Fig. 45

11. DISASSEMBLING AND ASSEMBLING OF THE INFORMATION CODE BASE PLATE ASS'Y from the Mount Base Ass'y.

[Information]

Aperture information is transmitted to the C.P.U. in gray code digital values through this information code base plate. A precision finish to within one micron (1/1000mm) of flatness has been achieved for this base plate, in order to completely eliminate any possibility of "Chattering" or intermittent disruption of the signal, due to the mechanical bouncing of individual contacts. And also, for the brush contacts the wire multi-type brush is used for the perfect conduction of information or commands. Therefore, handle this base plate or contact brush with extra care during the repair.

(1) Disassembling of the Information Code Base Plate Ass'y from the Mount Base Ass'y.

[Precautionary Steps for disassembling]

Before removing Information Code Base Plate from the Mount Base Ass'y after unscrewing the Information Code Plate S.S. and F.P.C. Fixer S.S., apply pressure with a finger on the Aperture Switch S.S.(66001050) to prevent the Aperture Switch Ass'y (071819) from suddenly rotating counterclockwise and damaging the Aperture Switch as the F. Stop Register Gear (141813), disengages from Aperture Linkage Gear.

a) The Information Code Base Plate Ass'y (071803) is disassembled from the Mount Base Ass'y, after the Mirror Box is removed, by removing the Information Code Plate S.S.(63913022 x 2) and F.P.C. Fixer S.S.(1419822)

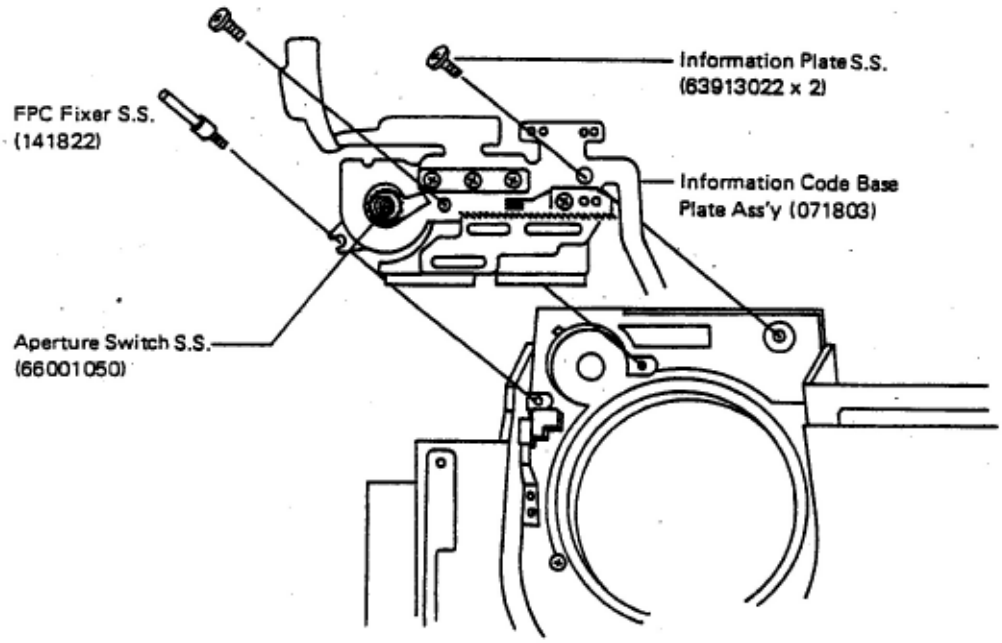


Fig. 46

(2) Disassembling and assembling of the Aperture Switch Ass'y from and to the Information Code Base Plate Ass'y.

a) See (fig. 47) which is self-explanatory.

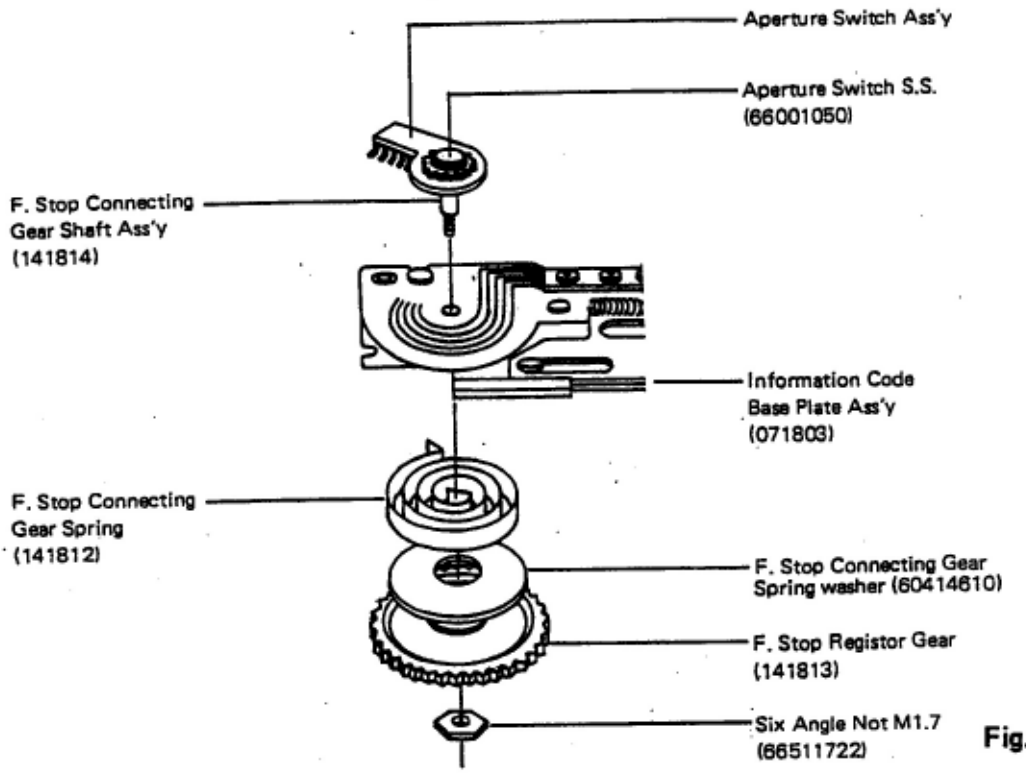


Fig. 47

(3) Assembling of the Information Code Base Plate Ass'y to the Mount Base Ass'y.

a) Push Aperture Linkage Pin in the direction of the arrow until it stops (f./1.2 aperture position)

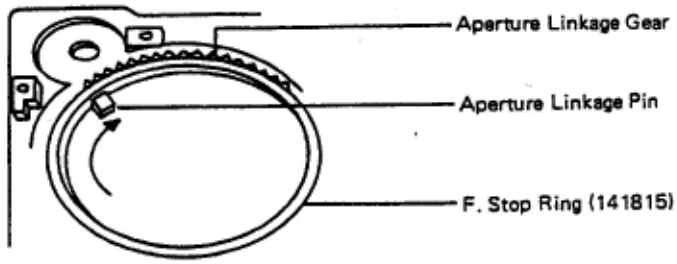


Fig. 48

b) With a small Phillips screw driver (+ tip) turn Aperture Switch S.S. (66001050) clockwise (about 120°) and align the notched Aperture Switch Contact with the triangular index (▼) on the Information Code Base Plate, and while maintaining this position carefully engage the F. Stop Register Gear (141813) to the Aperture Linkage Gear on the Mount Base Ass'y.
When the respective gears are engaged the Phillips screw driver can be removed and the Information Code Plate S.S. (63913022x2) and F.P.C. Fixer S.S. (141822) are screwed in to firmly hold the Information Code Base Plate to the Mount Base Ass'y in position.

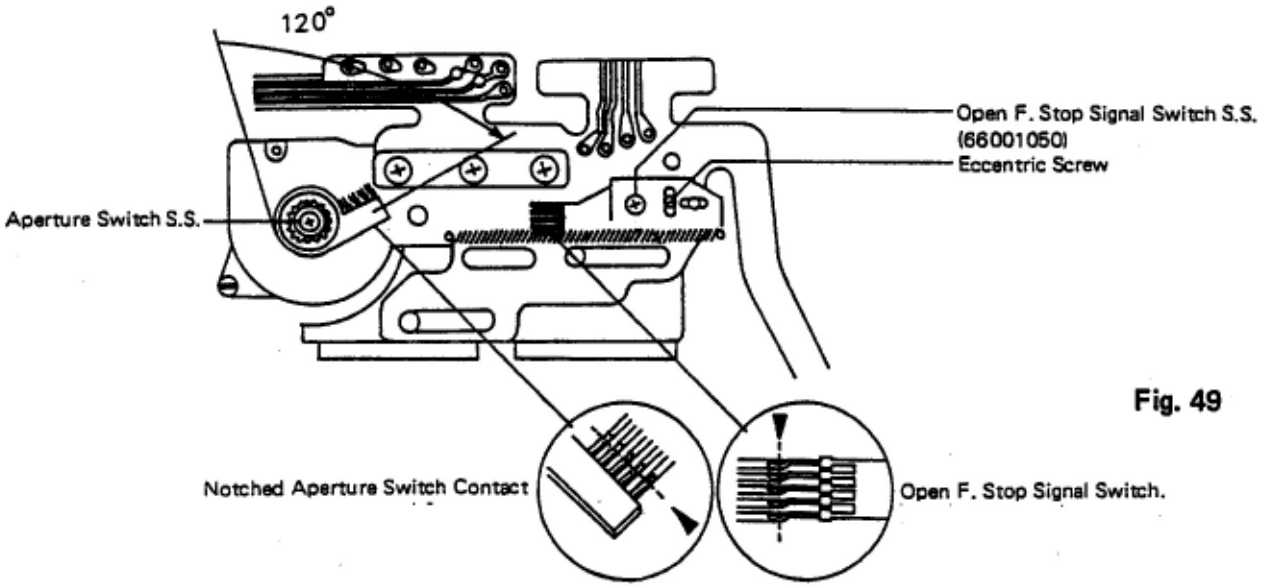


Fig. 49

(4) Adjustment of the Aperture Switch Contact position.

[Note for adjustment]
Excessive loosening of the Aperture Switch S.S. or repeating the correction will unscrew the Six Angle Nut M1.7 (66511722) at the other end and thus the Aperture Switch S.S.can not be tightened.

a) If the Aperture Switch Contact notches are not correctly aligned with the triangular index ▼ on the Information Code Base Plate, adjustment can be performed by slightly loosening the Aperture Switch S.S.(66001050) and aligning the notches of Aperture Switch contact only with the triangular index.
b) When the Open F. Stop Signal Switch (141810) is not correctly aligned with triangular index ▼ on the Information Code Base Plate, loosen the Open F. Stop Signal Switch S.S. (66001050) and turn the eccentric screw until it aligns correctly.

12. REPLACEMENT PROCEDURE OF FLEXIBLE PRINTED CIRCUIT (FPC)

a) Disassemble the exteriro parts.
(See **"1. DISASSEMBLING OF THE EXTERIOR PARTS"** page on ② ~③.)

b) Unsolder 7 lead wires and connecting legs of D. LED.
(See (a) and (b) of **"2. DISASSEMBLING OF THE MOUNT BASE ASS'Y** from the camera body" page on 4.)

c) Remove the respective parts ①~⑪ shown in (fig. 50) in numerical order.

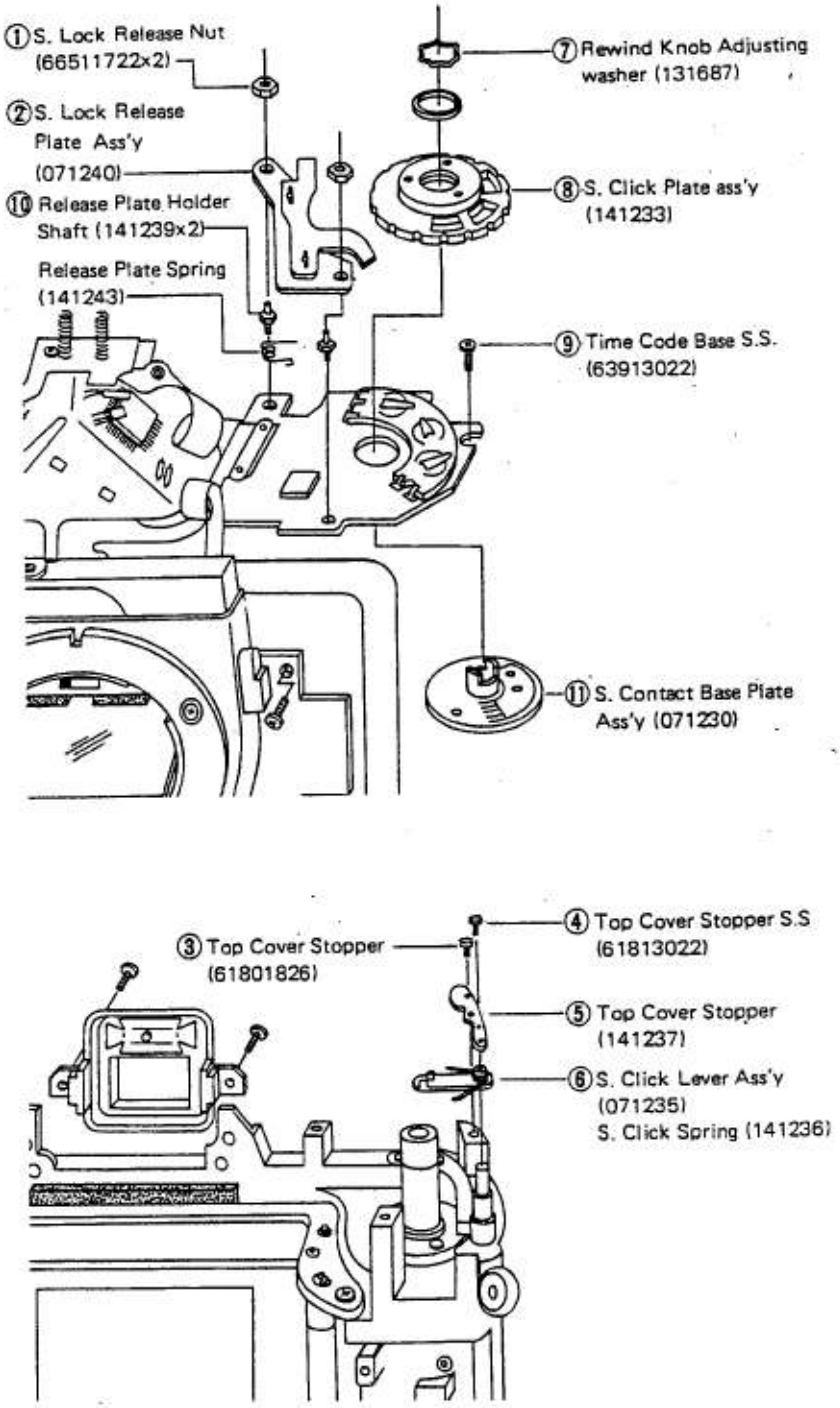

①S. Lock Release Nut (66511722x2)
②S. Lock Release Plate Ass'y (071240)
⑩ Release Plate Holder Shaft (141239x2)
Release Plate Spring (141243)
⑦Rewind Knob Adjusting washer (131687)
⑧S. Click Plate ass'y (141233)
⑨ Time Code Base S.S. (63913022)
⑪S. Contact Base Plate Ass'y (071230)
③ Top Cover Stopper (61801826)
④ Top Cover Stopper S.S (61813022)
⑤ Top Cover Stopper (141237)
⑥S. Click Lever Ass'y (071235)
S. Click Spring (141236)

Fig. 50

d) Remove the respective parts ① ~ ④ shown in (fig. 51) in numerical order.

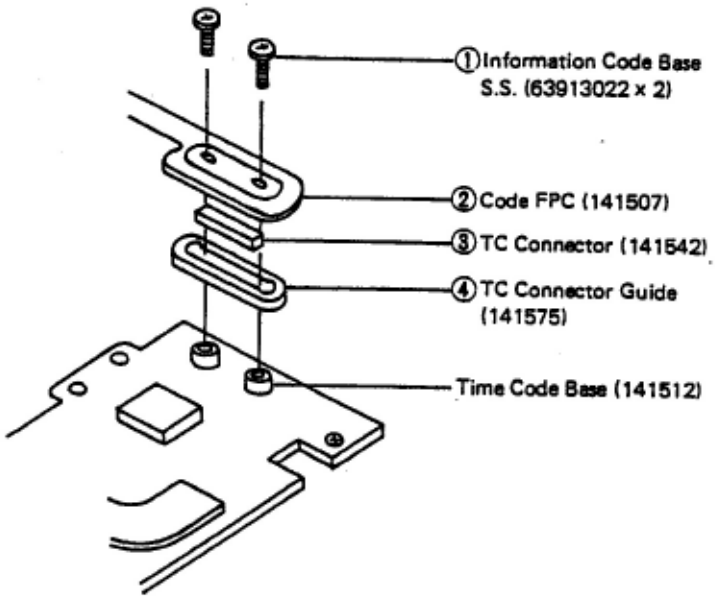

①Information Code Base S.S. (63913022 x 2)
②Code FPC (141507)
③TC Connector (141542)
④TC Connector Guide (141575)
Time Code Base (141512)

Fig. 51

[Note for disassembling]

a) Pay attention to the Release Plate Spring (141243) which circles around one of the Release Plate Holder Shaft (141239)

b) Remove the S. Contact Base Plate Ass'y (071230) to avoid damage to the multi brush contact during the repair.

[Note for reassembling S. Contact Base Plate Ass'y (071230) and S. Click Plate Ass'y (141233)]

a) Insert and position the multi bruch contact of S. Contact Plate Ass'y opposite to the Strap Holder S.S. (Right) as shown in (fig. 52) and the S. Click Plate Ass'y as shown in (fig. 53) for "Auto" mode setting.

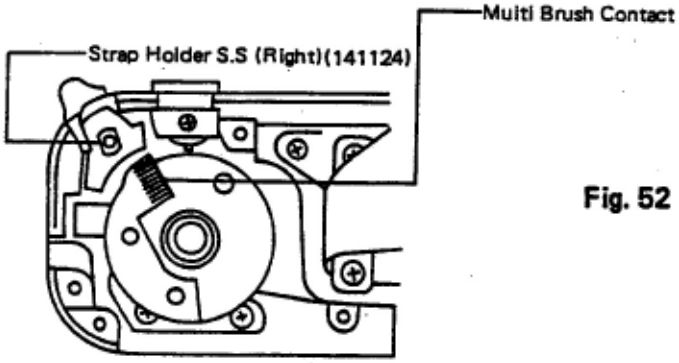


Fig. 52

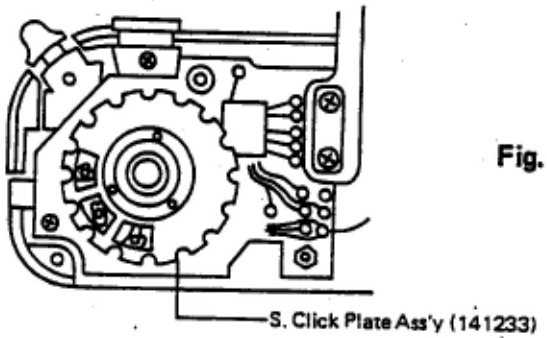


Fig. 53

e) Remove the respective parts ① ~ ④ shown in (fig. 54) in numerical order.

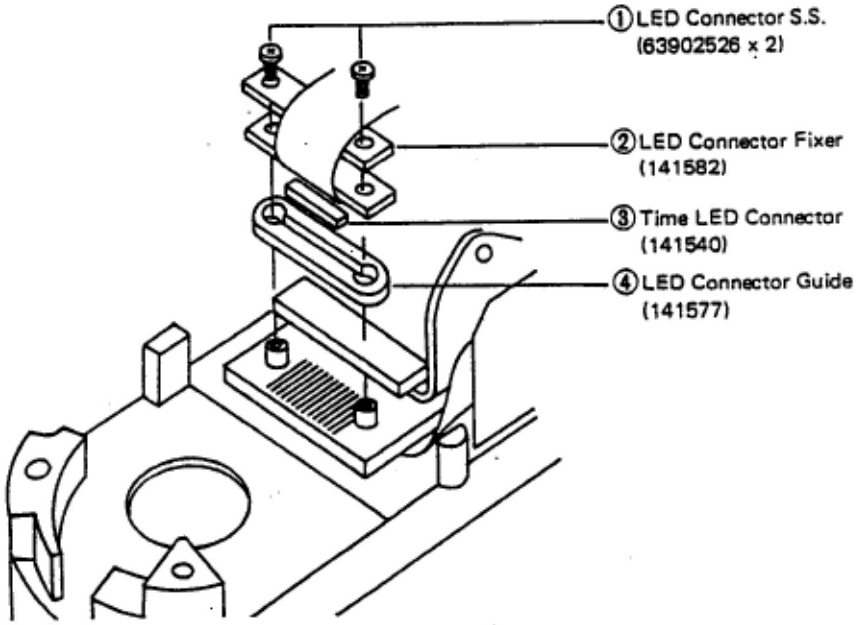


Fig. 54

f) Remove the respective parts ① ~ ③ shown in (fig. 55) in numerical order.

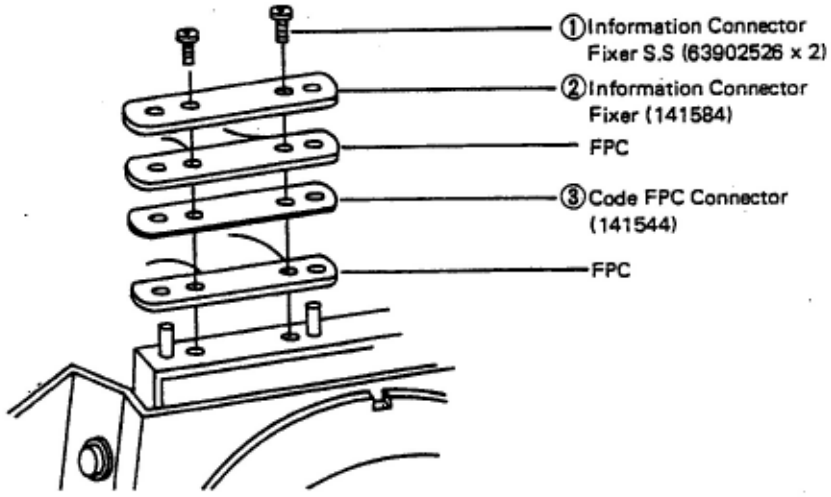


Fig. 55

g) Unsolder the FPC from the Main Switch (141222)

h) Remove the respective parts ① ~ ⑥ shown in (fig. 56) in numerical order.

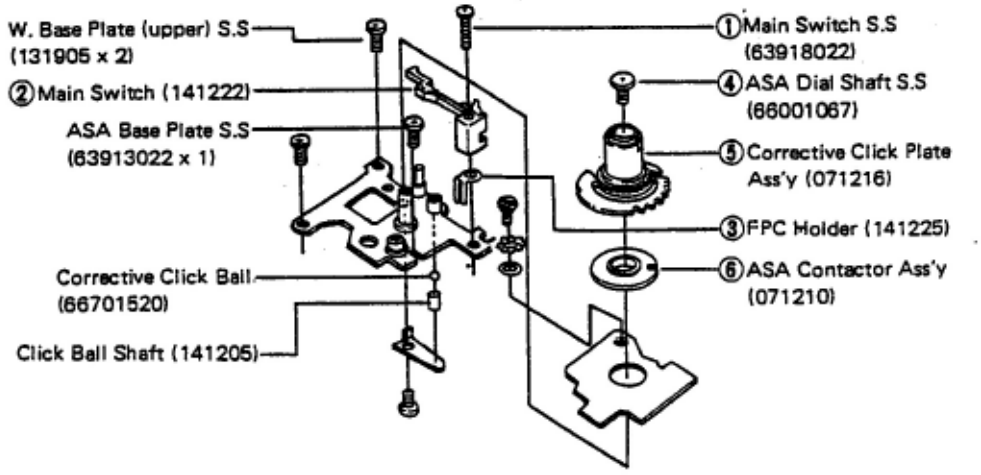


Fig. 56

[Note for disassembling]

a) Pay attention to the Corrective Click Ball (66701520) and Click Ball Shaft (141205) which fall easily when Corrective Click Plate Ass'y is removed.

i) Unsolder the FPC from ASA Resistor Base (141517)

[Note for disassembling]

a) After resoldering the FPC to ASA Resistor Base, make sure to clean the surface of ASA Resistor Base.

j) Remove the Winding Base Plate (upper) S.S. (131905 x 2) and ASA Base Plate S.S. (63913022 x 1). See (fig. 56)

k) Remove the respective parts ① ~ ④ shown in (fig. 57) in numerical order.

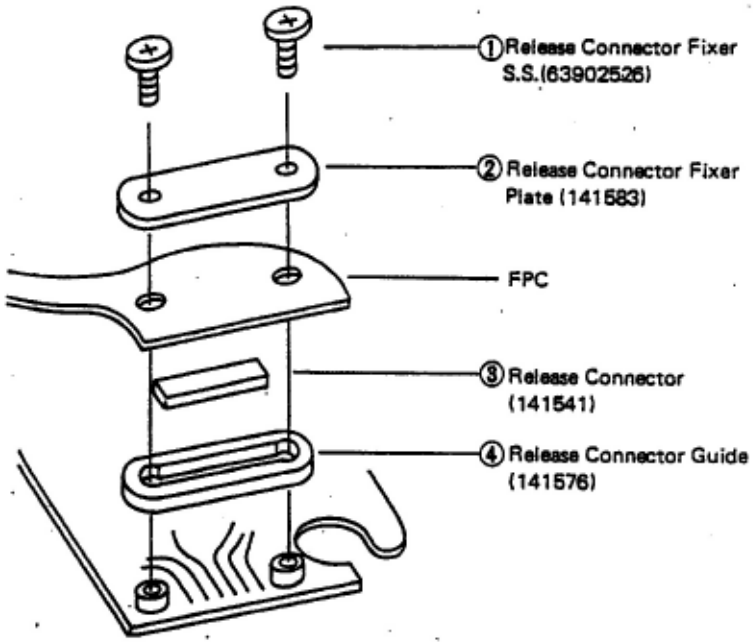


Fig. 57

l) Remove the Eyepiece Frame S.S. (61914026 x 2) and Eyepiece Frame (141145)

m) Remove the Main FPC S.S. (63902526 x 1) and SPD S.S. (63912022 x 2)

n) Fold and Form the FPC as shown (fig. 58) before installing.

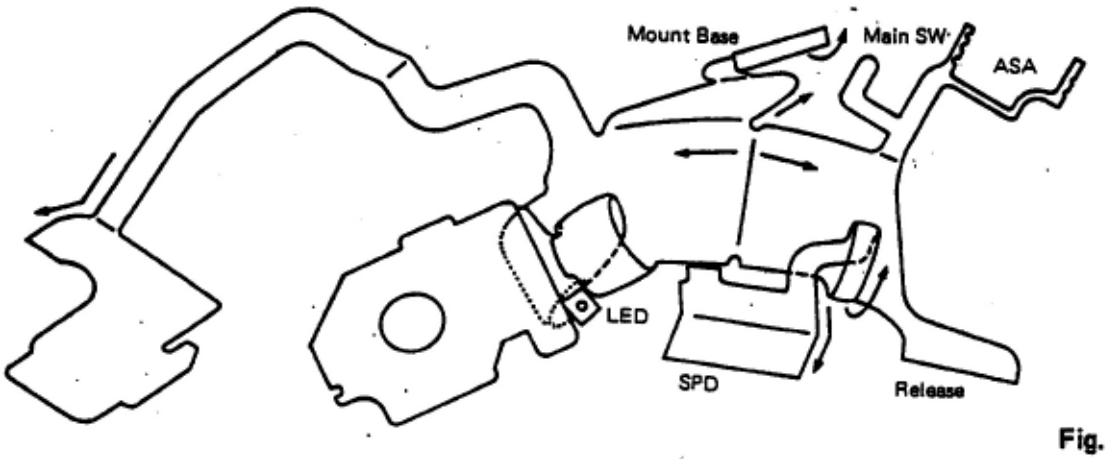


Fig. 58

13. VIEWFINDER CLEANING

(1) When there is dirt between Condenser Lens and Focusing Screen, remove the Focusing Screen and clean the viewfinder through the Lens Mount.

(2) When there is dirt between the Pentaprism and Condenser Lens, do the following procedure.

a) Remove the Top Cover.

b) Do the same procedure on page 4, a), b), c), d) of "DISASSEMBLING OF THE MOUNT BASE ASS'Y from the camera body"

c) Remove the respective parts ①~③ shown in (fig. 59) in numerical order.

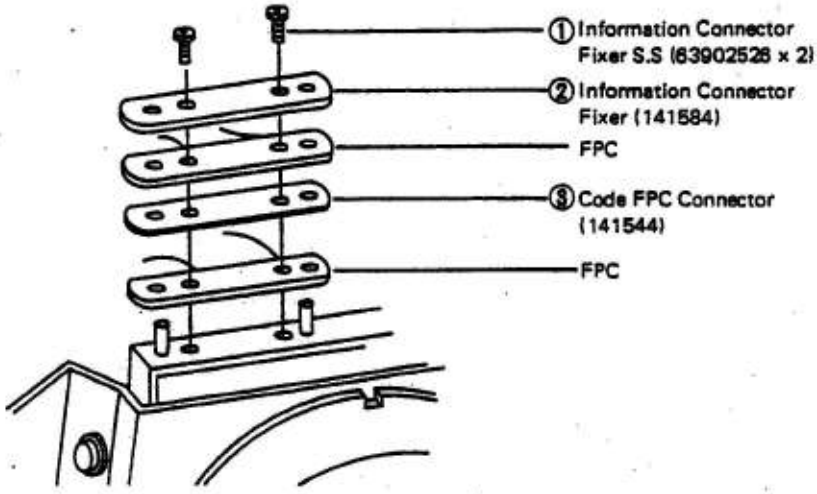


Fig. 59

d) Remove the respective parts ①~③ shown in (fig. 60) in numerical order.

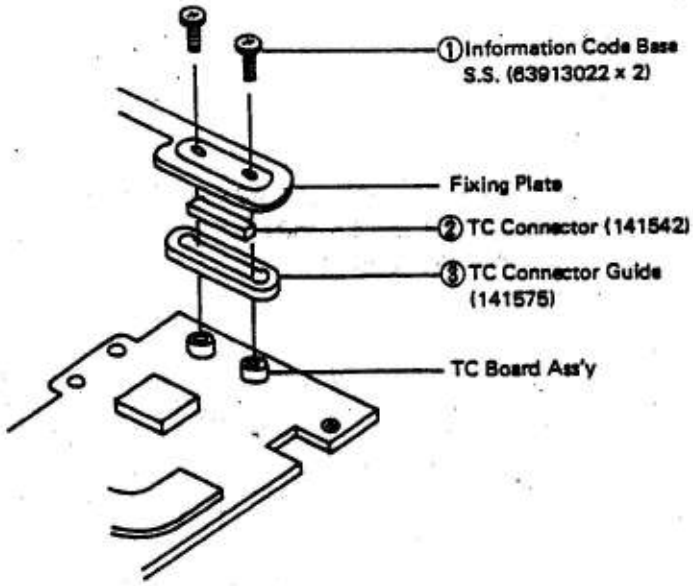


Fig. 60

e) Remove the respective parts ①~③ shown in (fig. 61) in numerical order.

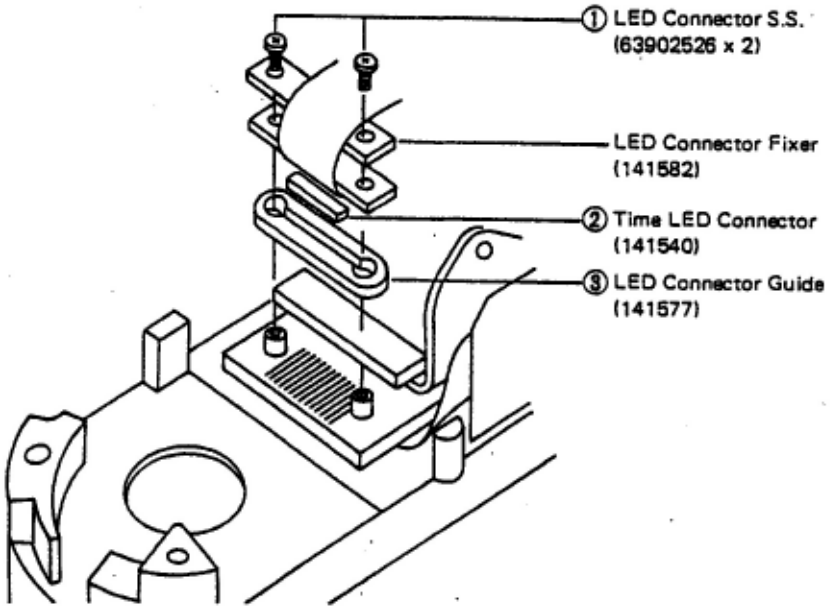


Fig. 61

f) Remove the SPD S.S. (63912022 x 2) and Main FPC S.S. (63902526). shown in (fig. 4)
g) Remove the FPC Ass'y (w/ASA Base Plate Ass'y)
h) Remove the Eyepiece Shutter S.S. (63912226 x 4) and Eyepiece Shutter Ass'y (141901) shown in (fig. 62).

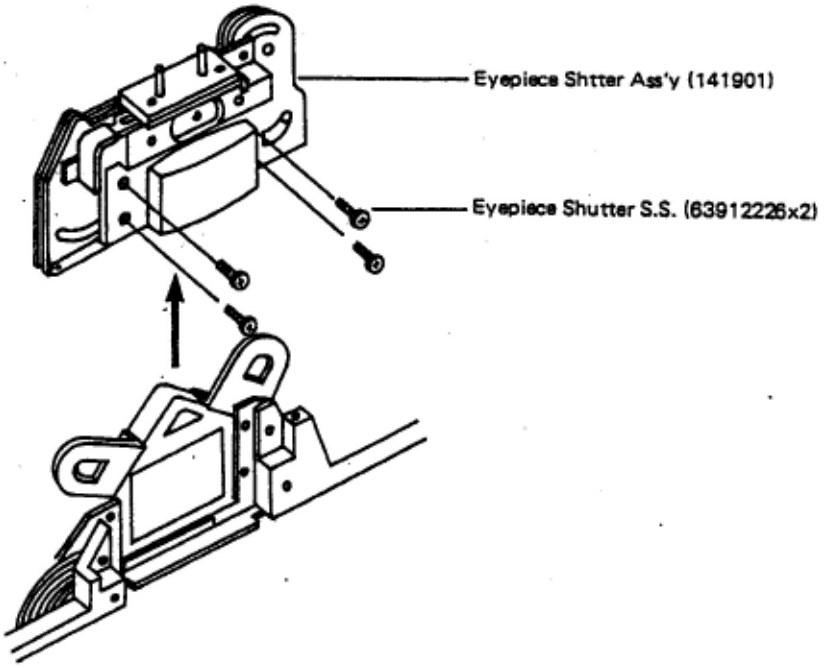


Fig. 62

i) Remove the Mount Base Ass'y from the camera body.
j) Remove the Pentaprism Holder S.S. (63912526 x 4) and the Pentaprism Holder Ass'y from the Mirror Box Ass'y shown in (fig. 45).

[Note for disassembling of the Pentaprism Holder Ass'y]
Pay attention to the Focusing Adjusting Washers located between Pentaprism Holder Ass'y and Mirror Box.

k) Remove the Pentaprism Cushion (141886) and Pentaprism Fixer (141885) shown in (fig. 63).

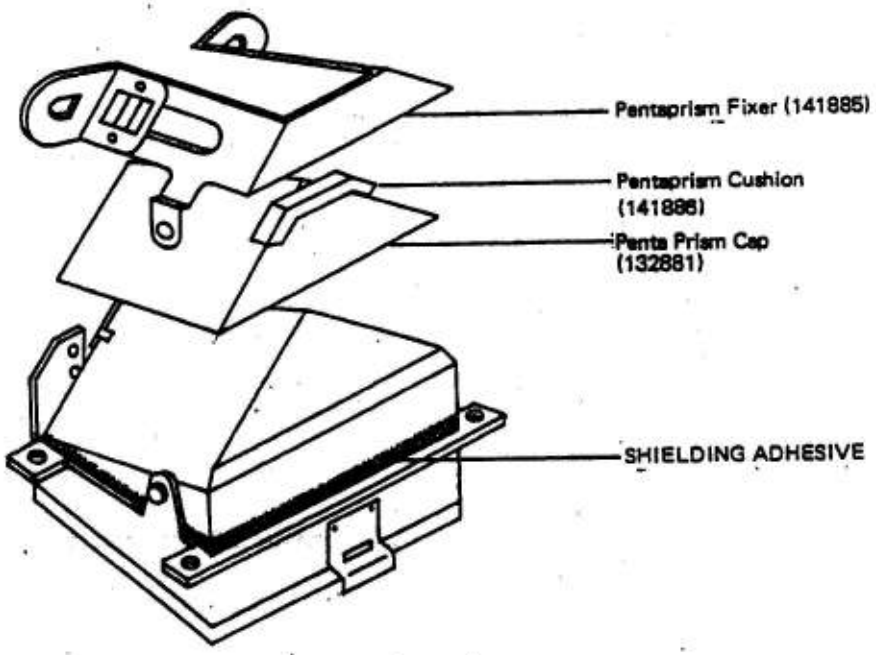


Fig. 63

l) Remove the shielding adhesive from around the Pentaprism.
(This shielding adhesive is available from Yashica)
m) Remove the Pentaprism and clean the viewfinder.
n) After completion of the viewfinder cleaning, re-check the finder focus again.

FINDER FOCUS ADJUSTMENT

Finder focus error can be determined by the positions of the infinity (∞) symbol and index line on the lens in use.
When the finder focus error is within the "a" range (fig. 64) adjust by turning the Mirror Angle 45° Adjusting screw (63915522) (fig. 67). This adjustment can be performed from bottom of the camera body by removing the Bottom Cover.

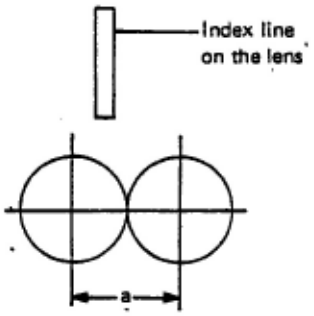


Fig. 64

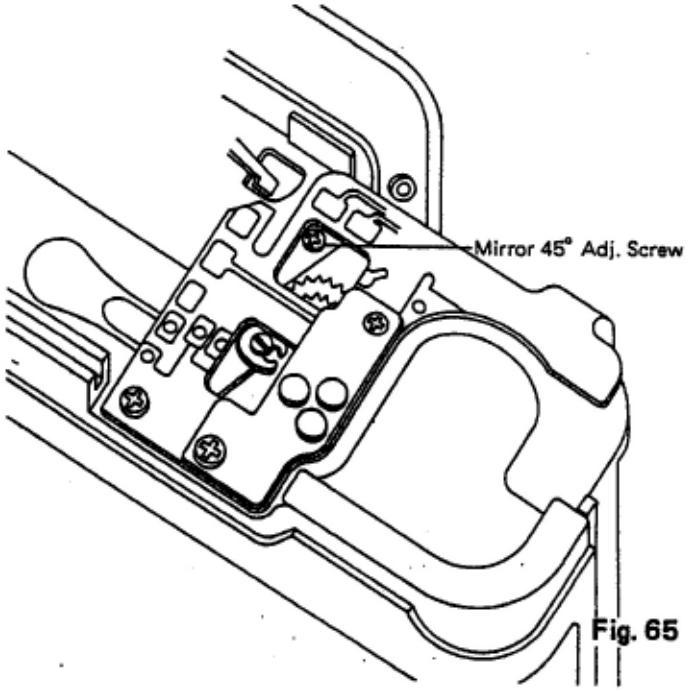


Fig. 65

When the finder focus error is out of "a" range (fig. 66) adjust the finder focus by changing the P. Adjusting Washers (fig. 67) Seven different thickness of P. Adjusting Washers are available, therefore, select the proper one.

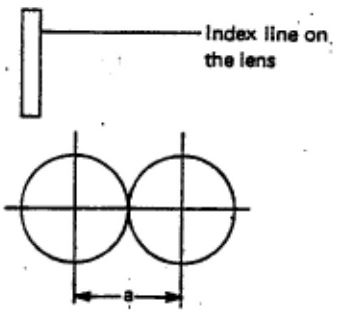


Fig. 66

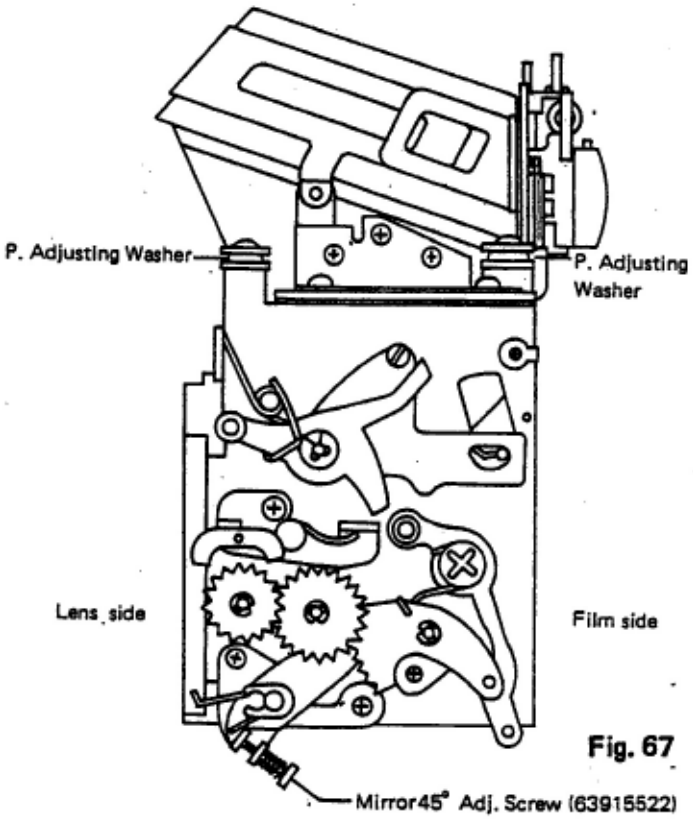


Fig. 67

14. SHUTTER SPEED & EXPOSURE ADJUSTMENT.

(1) The Modified Back Cover. (fig.68)

The modified back cover is required when checking the Automatic Exposure off the film plane with the EE Tester (Multi Camera Tester), or Shutter Curtain Travel Speed or Shutter Speed with the Shutter tester. With the RTS-II Quartz camera, when the Back Cover is opened (Counter Switch is turned on), the shutter speed is automatically set at 1/60 sec.

Modification.

Cut out the ▨ portion of the used back cover of the Contax RTS or RTS-II.

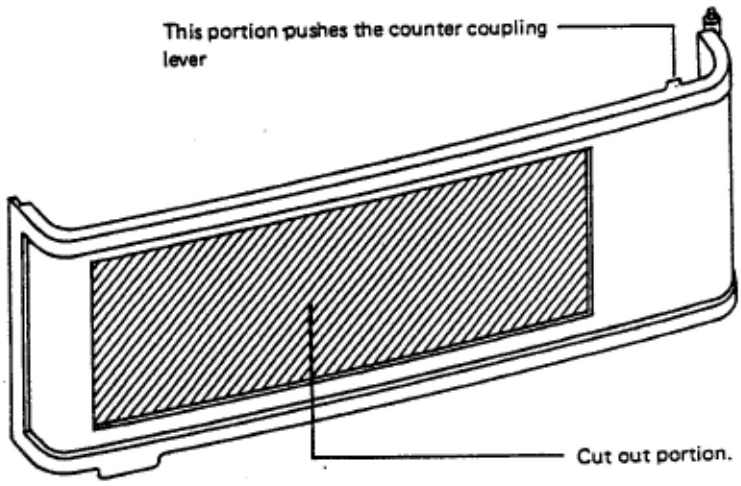


Fig. 68

(2) Shutter Curtain Travel Speed. (RUN TIME) Tolerance Limit.

Tolerance Limet.

10.5 ± 0.5 ms. (The difference of 1st & 2nd Shytter Curtain Travel Speed should be within 0.2 ms)

Adjustment of Shutter Curtain Travel Speed is performed by turning the Shutter Curtain Speed Adjusting Gear. (fig. 69)

- Turning to counter-clockwise becomes faster.
- Turning to clockwise becomes slower.

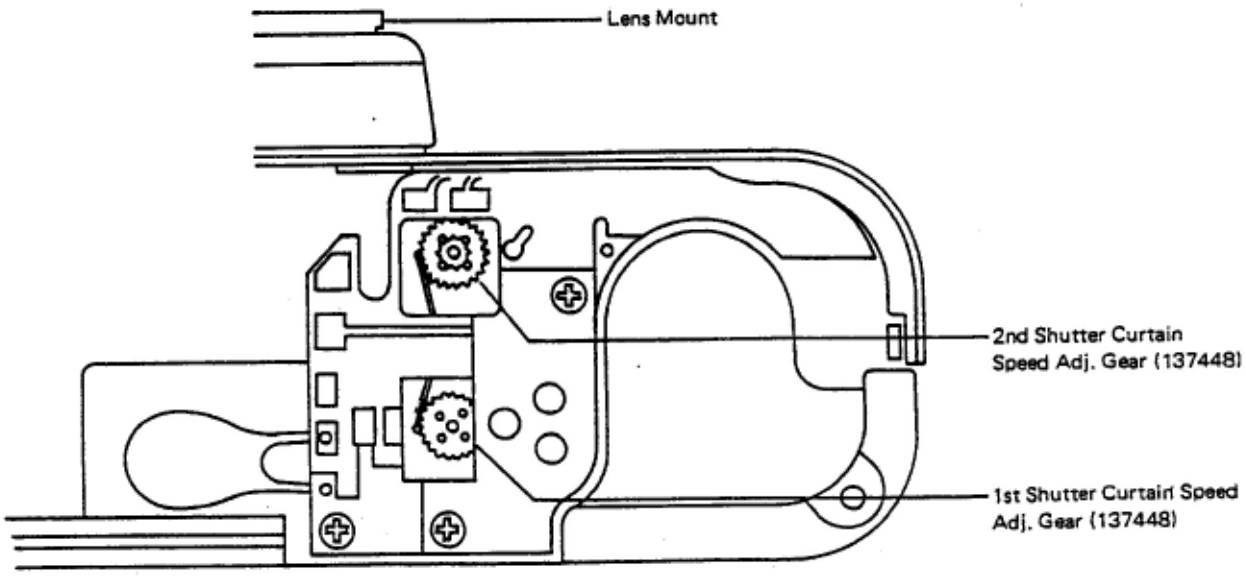


Fig. 69

(3) Shutter Speed (Ext. Time)
Tolerance Limit:

	Max.	Standard	Min.
	Max.	Standard	Min.
4	4560	4000	3480 ms.
2	2280	2000	1740
1	1140	1000	870
1/2	570	500	435
1/4	282	250	218
1/8	143	125	109
1/15	71	63	54
1/30	36	31	27
1/60	18	16	14
1/125	9	7.8	6.8
1/250	4.8	3.9	3.2
1/500	2.4	1.95	1.6
1/1000	1.3	0.98	0.7
1/2000	0.7	0.49	0.4

Mechanical Shutter Speed (1/50 sec.)	18~22 ms.
x (1/60 sec.)	13.6~17.8 ms.

The shutter speed (1/2000 & 1/1000 sec.) can be adjusted by adjusting the Trigger Switch. (fig. 44)

(4) AUTOMATIC EXPOSURE ADJUSTMENT. (IMPORTANT — See Fig. 68.)

Set the EE Tester (Multi Camera Tester) . . . . . ASA 100, K=1.3.
Set the camera to be tested . . . . . Auto, ASA 80, f/5.6
Tolerance Limit

LV 6*	+0.42~−0.3 EV
LV 9*	+0.36~−0.3
LV 12	+0.3 ~−0.3
LV 15	+0.4 ~−0.3

*Checking the exposure LV 6 & 9 requires the Eyepiece Shutter to be fully closed.
Automatic exposure can be adjusted by turning the Ra-5 semi-fixed resistor. (Adjustments can be done by removing the Shutter Dial. It is unnecessary to remove the Top Cover.) (fig. 70)

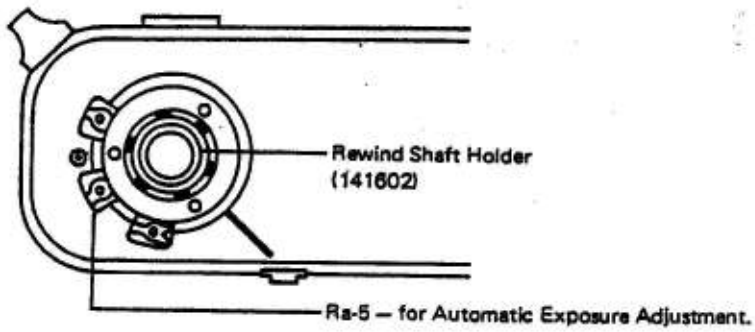


Fig. 70

15. OTHERS.

(1) Battery Power Consumption.

Conditions	Electric Current Reading
a) Main SW ON or OFF	About 5 μA
b) Main SW ON/Check SW or AE-Lock SW ON	About 10~13 mA
c) Main SW ON/Check SW or AE-Lock SW ON/Exp. Compensation SW ON	About d) plus 0.5 mA
d) While shutter is being fully opened at "B" mode setting	About 30 mA

Connect the Camera body, Regulated DC Power Supply and Ammeter (use of the Digital Multimeter is recommended) as shown below.

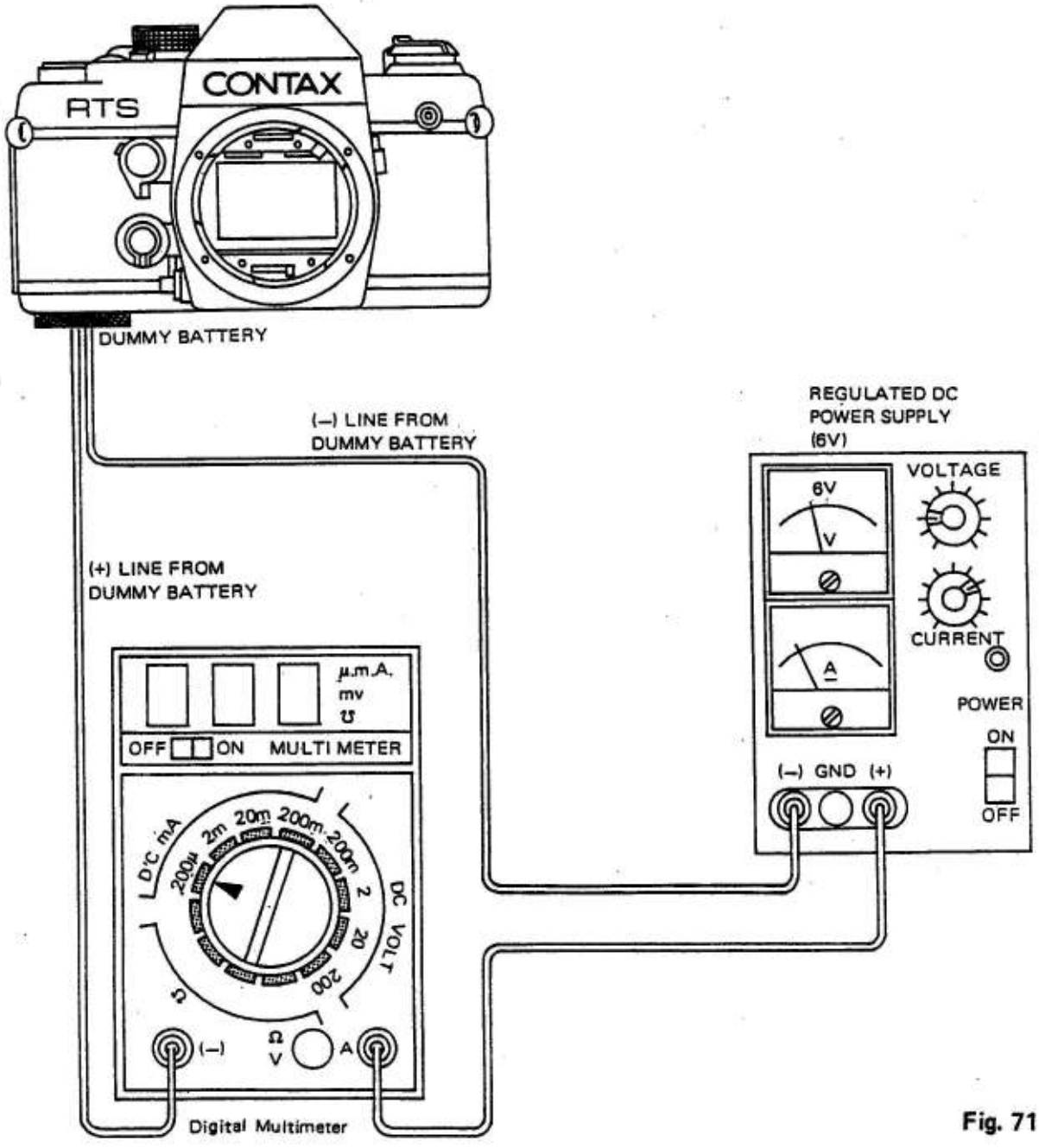


Fig. 71

(2) Voltage Check and Adjustments.
(Standard Voltage, Battery Check, Standard Voltage for Flash Exposure)

[Information]
The principal voltages for balancing the electronic circuit including voltages below mentioned have been correctly adjusted already when the Flexible Printed Circuit has been assembled in the factory, Spare Parts as well.

a) Standard Voltage Adjustment.

- Supply 6 volts to the camera from the Regulated DC Power Supply as shown in (fig. 72).
- Turn on the AE-Lock Switch.
- Check the voltage between two check points as shown in (fig. 73) with the Digital Multimeter.

The voltage should be 724 ± 1mV

When the adjustment is required, adjust it with the semi-fixed resistor Ra-2.

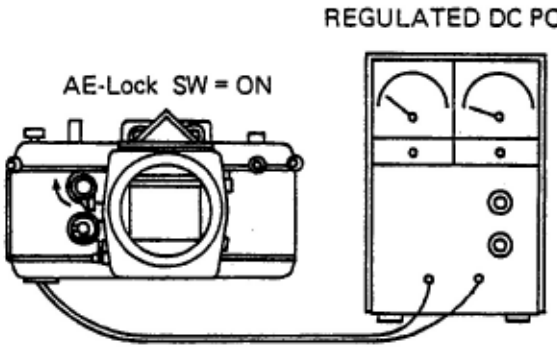


Fig. 72

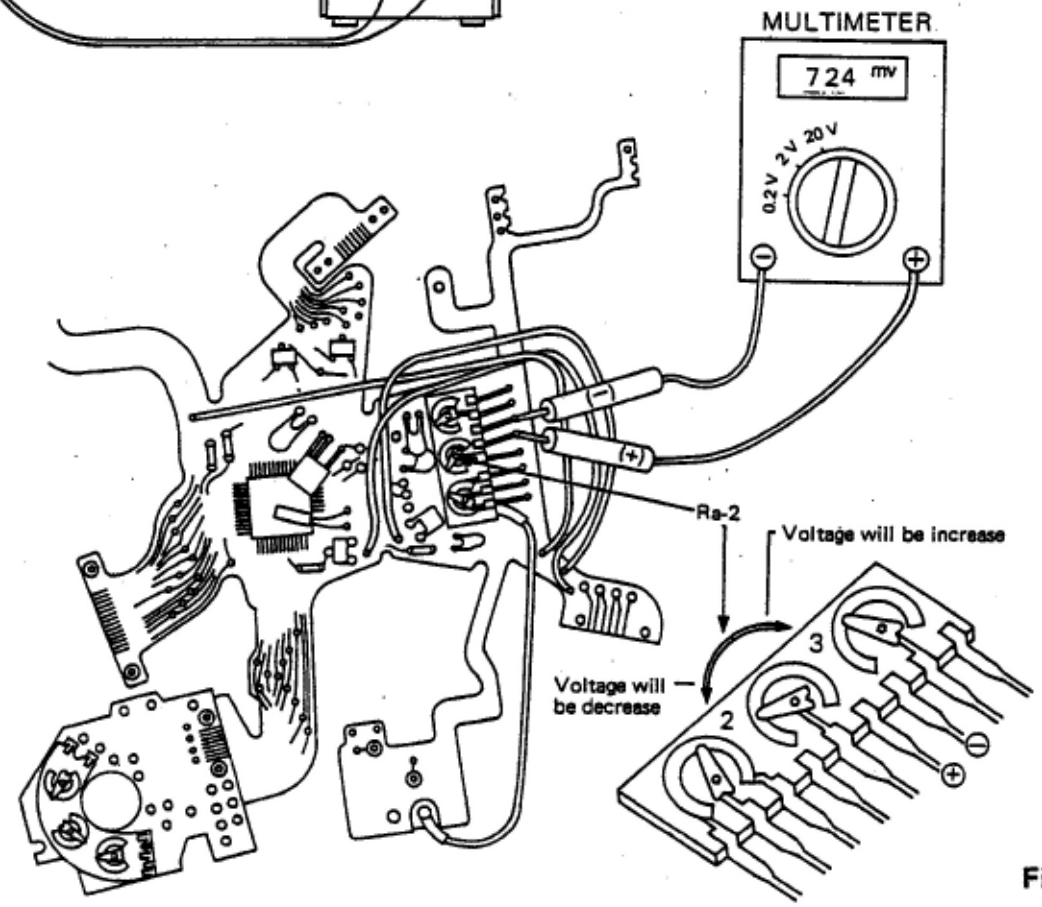


Fig. 73

b) Battery Check adjustment.

- Set the camera at "Auto" setting position.
- Supply the respective voltage listed in the table below and see the performance of the Shutter Speed LED in the viewfinder by depressing the Exposure Check Button.

Power Source Voltage	Performance of the Shutter Speed LED in the viewfinder
5.2~6 volts	LED lights continuously
5.0~5.2 volts	LED lights flickeringly
less than 5 volts	LED does not light at all

When the adjustment is required, adjust it with the semi-fixed resistor Ra-3.

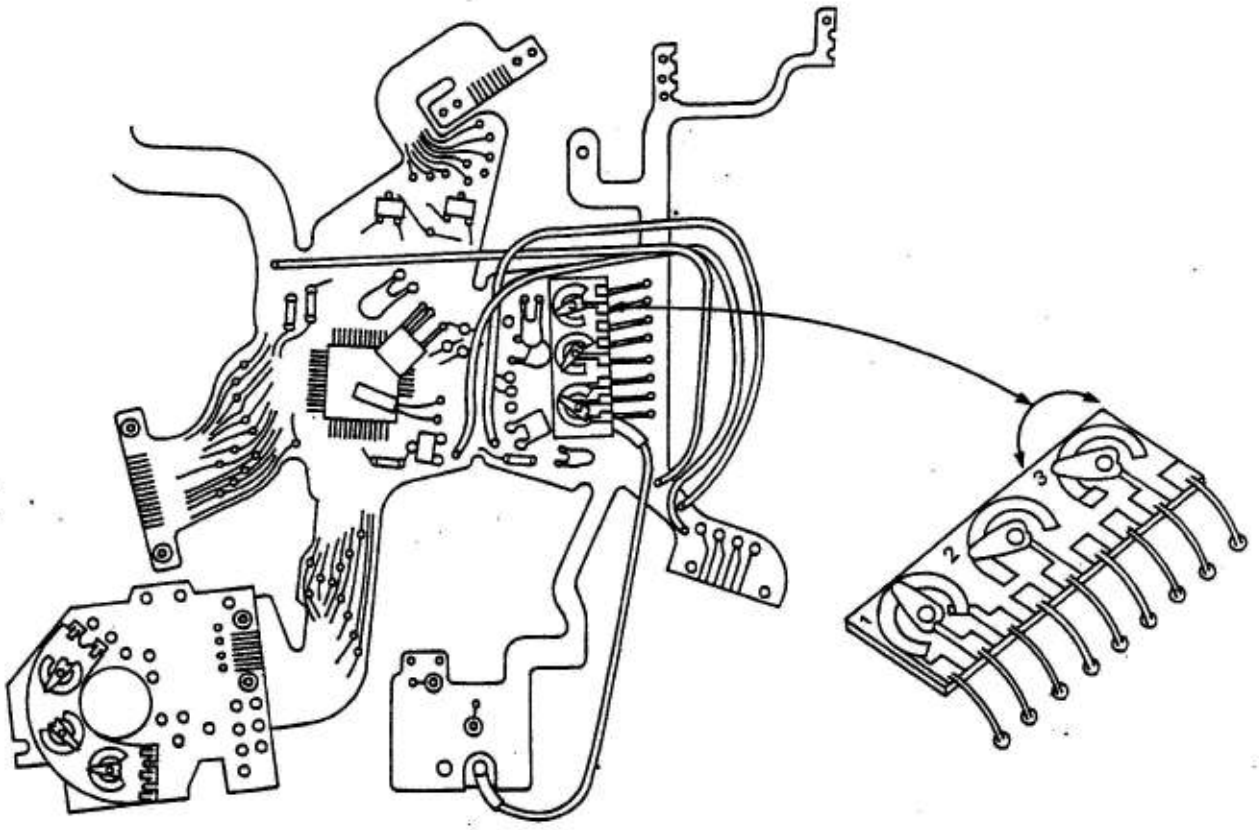


Fig. 74

c) Standard Voltage for Flash Exposure adjustment.

- Supply 6 volts to the camera from the Requlated DC Power Supply as shown in (fig. 72).
- Set the ASA speed to ASA 200 and turn on the AE-Lock Switch.
- Check the voltage between two check points as shown in (fig. 75) with the Digital Multimeter.
  The voltage should be 100 ±3 mV

When the adjustment is required, adjust it with the semi-fixed resistor Ra-4.

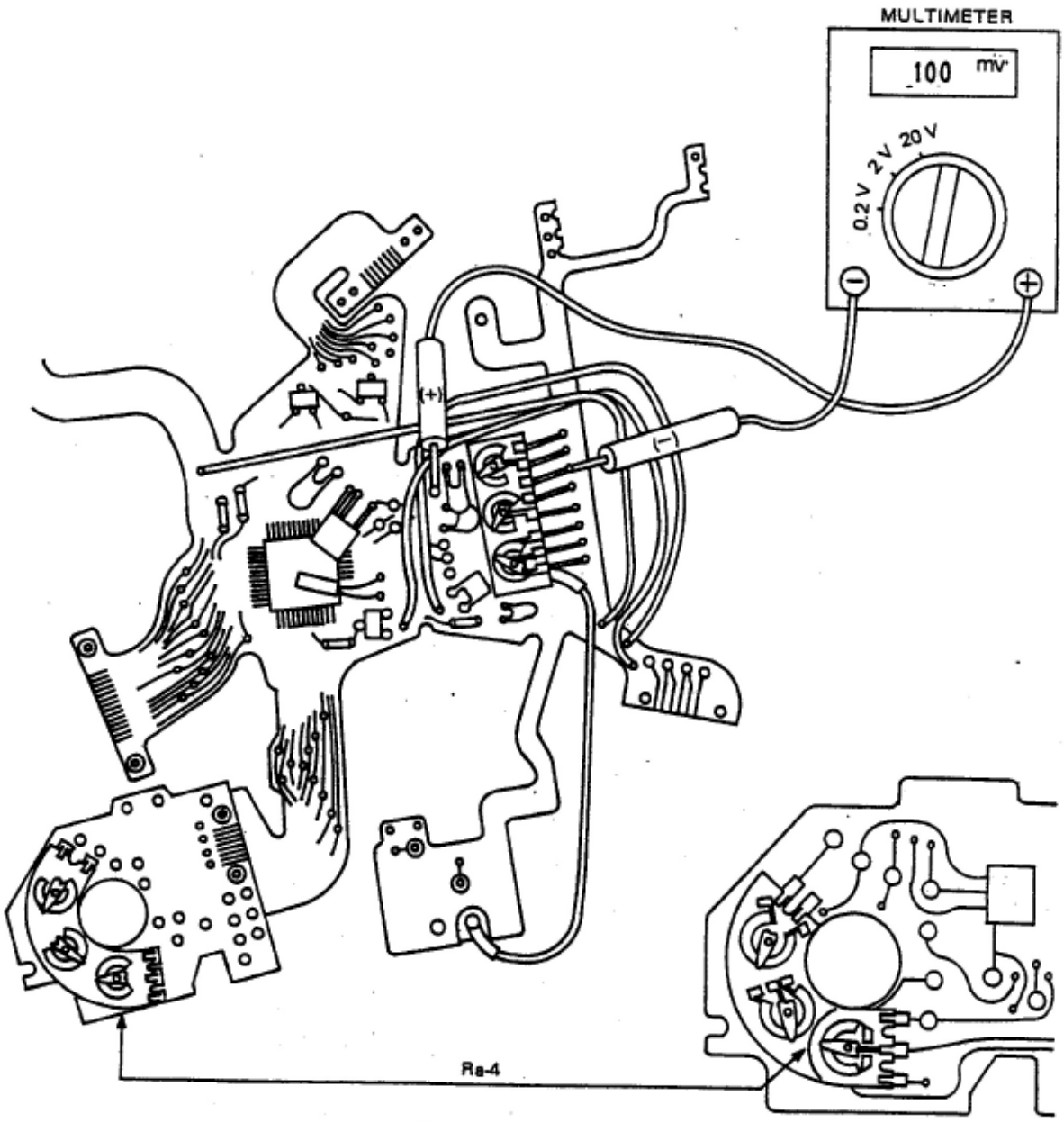


Fig. 75

Contax RTS II Wiring Diagram

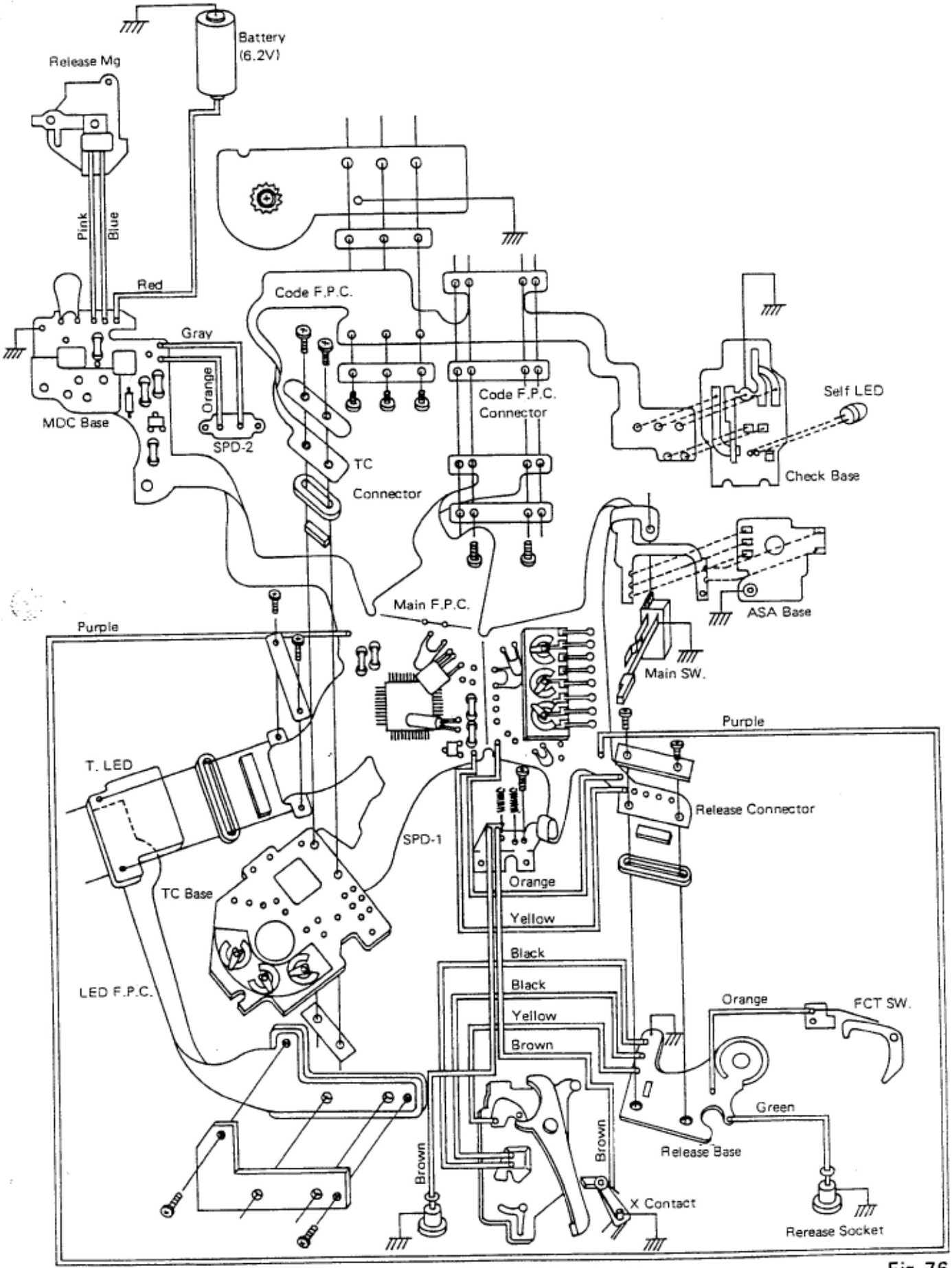


Fig. 76

WIRING DIAGRAM FOR DATA BACK D-4 (For Contax RTS-II)

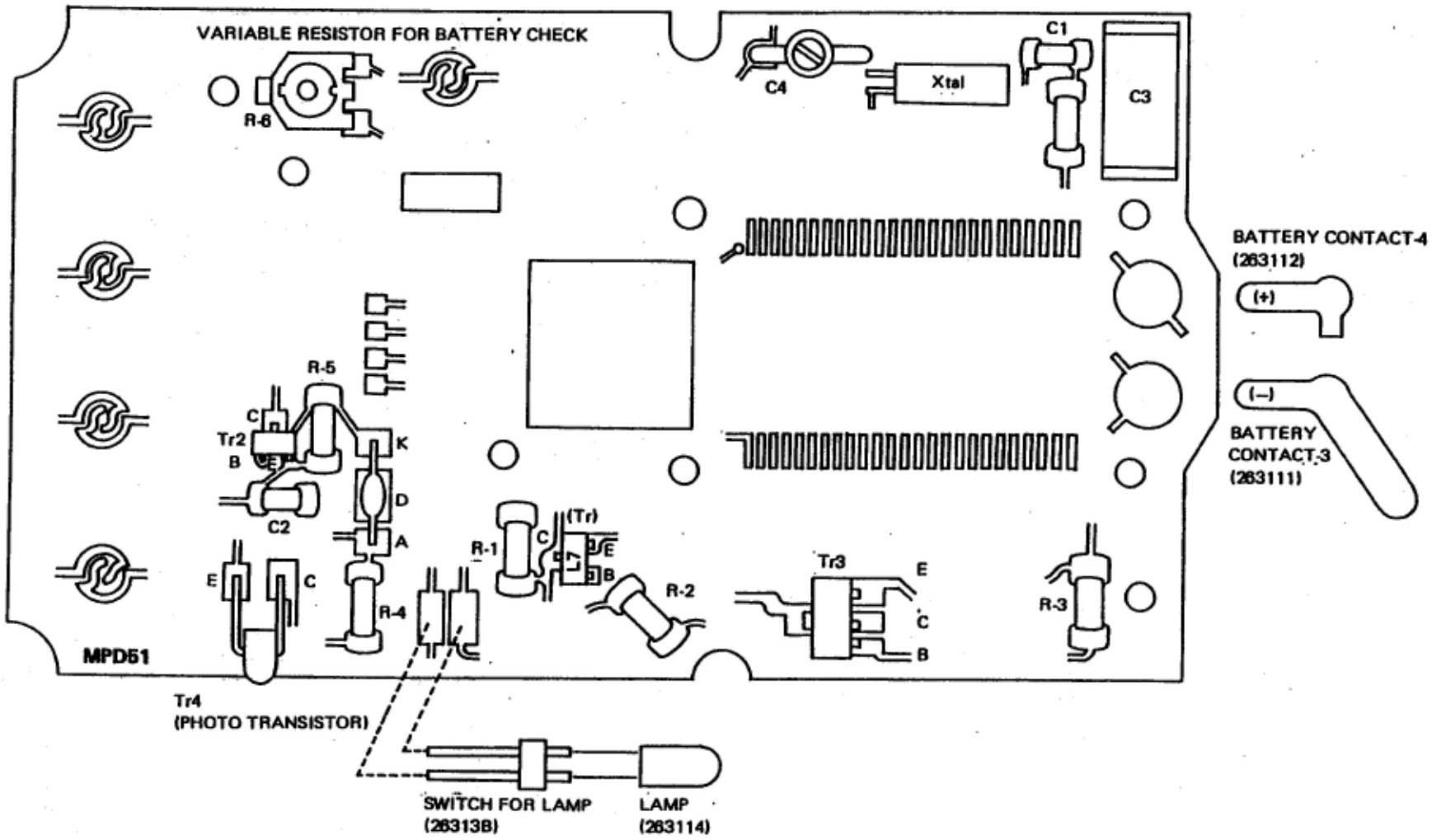


Fig. 77

Trouble shooting chart for DATA BACK (D-4) for CONTAX RTS-II

1) **Does not print the data on to the film.**

- D-LED of the camera does not lit. ——— Something wrong with camera.
- Defective D-4.
  - Check
    - Photo transistor
    - Lamp
    - Tr-2, Tr-3
    - R-2, R-3, R-4, R-5
    - IC (Amplifier)

2) **Does not display the data in display window.**

- X'tal does not oscillate.
  - Check
    - X'tal
    - C-1, C-2
    - IC (Amplifier)
- Defective connector.
- Defective LCD (Liquid Crystal Diode)

3) **Under exposed data printed on film.**

- Defective lamp
- Tr-3, R-2, R-3
- IC (Amplifier)

4) **Flickering data display in display window.**

- Weak battery (Replace it with new battery.)
- Readjust the variable resistor R-6.
  - Over 2.5volt . . . . . Lit.
  - Under 2.4volt . . . . . flickering.
- IC (Amplifier)

5) **Excessive battery consumption.**

- Defective C-3.
- Short circuit at LCD, connector and base plate.
- IC (Amplifier)

6) **Error in clock function.**

- Readjust the capacitor C-4.
- IC (Amplifier)

[Information]

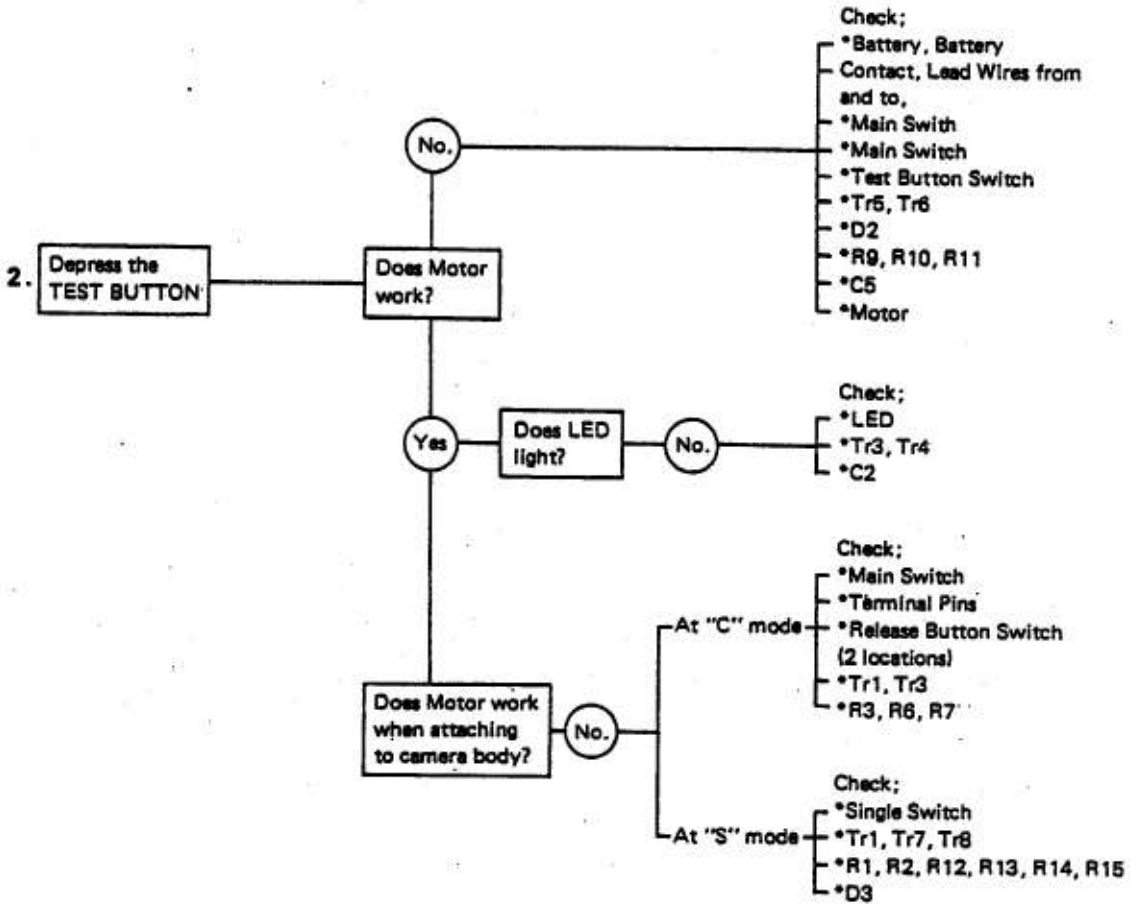
1) Stand by current . . . . . Less than 20μA.
2) Electric current of normal condition. . . . . Less than 16 mA
   (When lamp is lit.)

16. Trouble shooting chart for DATA BACK (D-4) for CONTAX RTS-II

(Before starting repair the Winder, check the camera body thoroughly)

1. The shutter does not work when the Release Button on the Winder is depressed.

Check: (1) Release Button Switch.
(2) Lead Wires from or to the Release Button Switch.
(3) Loose Ground Screw on the Amplifier Board Ass'y. (See the attached wiring diagram)



W-3 A BASE PLATE ASS'Y

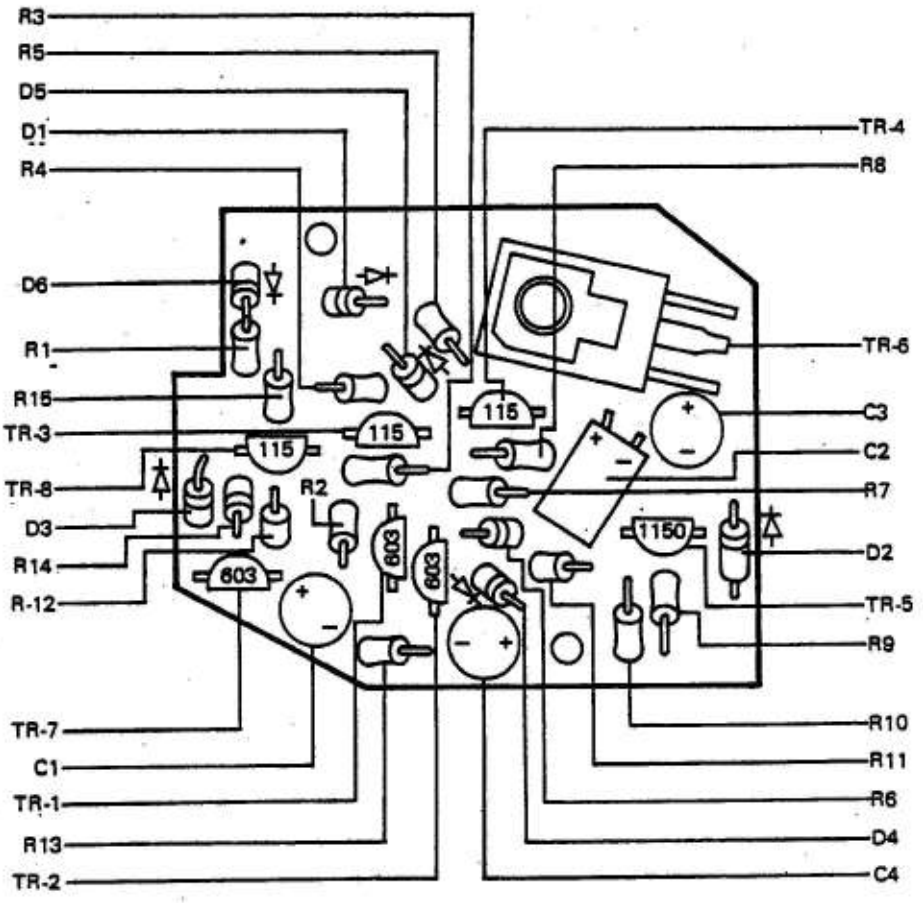


Fig. 78

Wiring Diagram for WINDER W-3

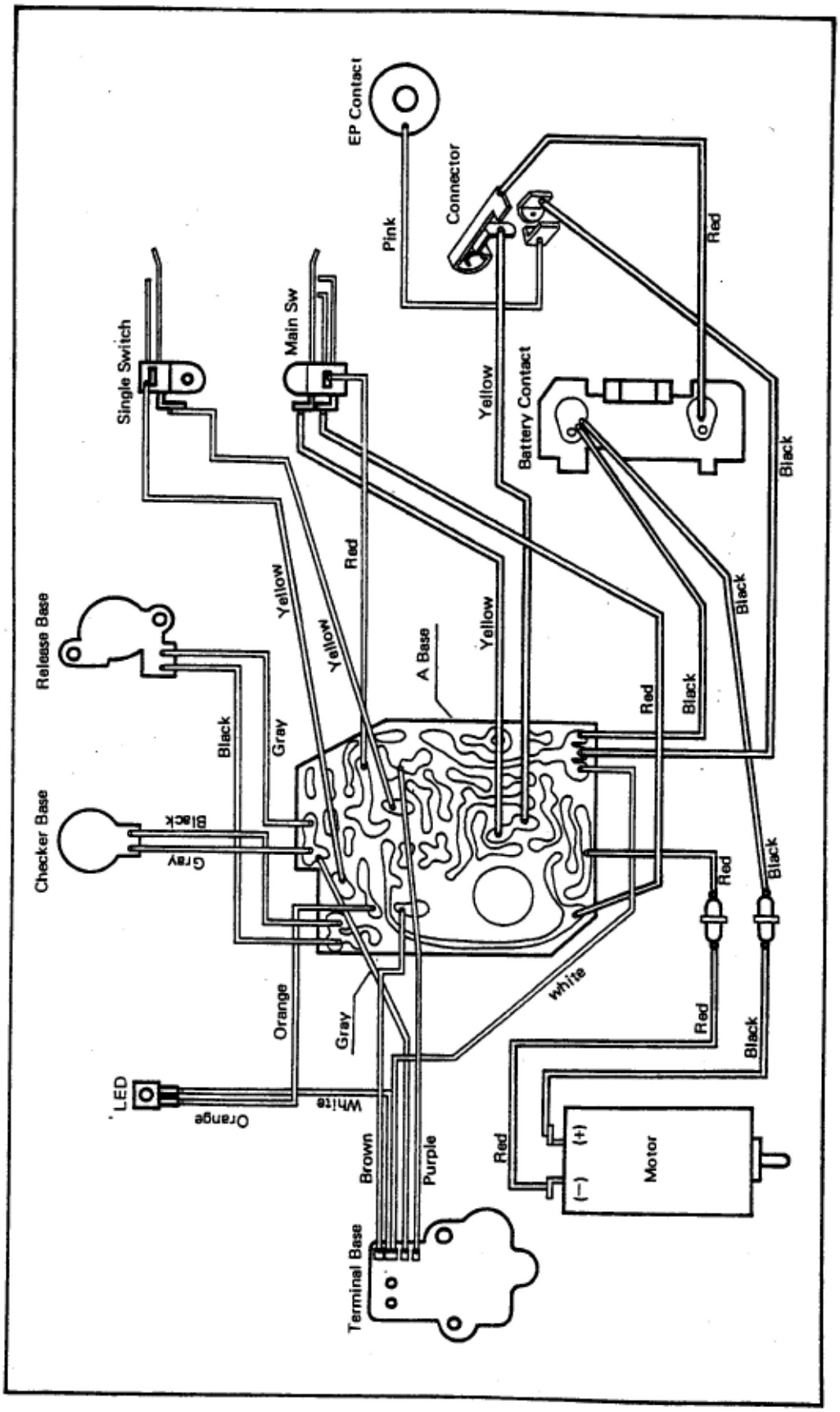


Fig. 79